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THE

SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.

A TRULY VIRTUOUS WILL IS ALMOST OMNIPOTENT.

EDITED BY

MILTON ANTONY, M. D.

Professor of Obstetrics, &c. in the Medical College of Georgia.

AUGUSTA, GA.
Printed by Guieu & Thompson,
McIntosh-street.

1839.

THE FLOWERS COLLECTION

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1838-39

To the Subscribers of the Southern Medical and Surgical Journal.

Since the notice on the cover of the Journal was printed, which announced that the undersigned had undertaken its Editorial management, unforseen circumstances have occurred which render it necessary for them to decline the undertaking—should other arrangements be made for the continuance of the work, due notice will be given to its subscribers.

JOSEPH A. EVE, M. D.
I. P. GARVIN, M. D.

Augusta, Oct. 16th, 1839.

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SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] OCTOBER, 1838. [No. 1.

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

Address to the Class, on opening the Course of Lectures in the Medical College of Georgia, the 17th of October, 1837. By PAUL F. EVE, M. D., Professor of Surgery and Dean of the Faculty.

Gentlemen:

It has been thought proper, under the present organization of our School of Medicine, to deliver but one public lecture, instead of occupying, as heretofore, the first week by an Introductory on each day; and through the kindness of my colleagues, I have been made the humble instrument of welcoming you, at this time, to the Medical College of Georgia. In the name of the Faculty, whom you have honored by your presence on this interesting occasion, I bid you welcome, thrice welcome, within these walls, dedicated to the science of Medicine. We would hail you, as youthful but zealous votaries, aspiring after the honors of a profession, whose exercise is the preservation of life and health; whose office is the doing of good: and as this hour may be supposed to have been set apart to initiate you to the advantages held out to students by our College, nothing

seems more appropriate than to devote it to the brief consideration of this object. This too will enable you to decide, if we have voluntarily assumed solemn responsibilities without due deliberation, or have assumed important duties without the requisite preparations for their faithful performance.

The early history of the Medical College of Georgia, like that of many individual enterprises, the success of which has so greatly distinguished our country among the nations of the earth, presents a striking example of what may be accomplished by industry and perseverance. On this day five years ago, the first Introductory lecture was delivered in the Masonic Hall of this city. We were then without a suitable Building and almost alike destitute of Anatomical Museum, Chemical Apparatus, Library, and nearly all other conveniences for carrying on our College operations. As early, however, as 1827, the idea was suggested by a member* of the present Faculty, of establishing a Medical Academy in this place. In the winter of 1830, a charter was granted by the Legislature of this State to the Medical College of Georgia, empowering its Trustees to confer the degree of Doctor of Medicine upon those, who had complied with the requisitions demanded by the most respectable Medical Schools of the United States. In the summer of 1832, the Faculty was organized by the election of six Professors, five of whom still hold office in the College; and during the winter of 1832, '33, the first regular course of lectures was delivered in two rooms, temporarily fitted up in the city Hospital, to a class of twenty-seven students, four of whom were graduated at the first commencement.

From the Legislature of 1833, we received a donation of ten thousand dollars, and from the City Council of Augusta, five thousand more, by guaranteeing medicines and medical services to the Hospital for ten years. With the fifteen thousand dollars thus obtained, this edifice was erected on this lot, generously ceded to us by the Trustees of Richmond Academy. During the winter of 1833, '34, the class in attendance amounted to thirty, and at the second commencement, the degree of M. D. was conferred upon fifteen approved Candidates.

*Dr. Antony.

Early in the Spring of 1834, the Faculty raised, upon their own responsibility the sum of ten thousand dollars, and dispatched to Europe one of the Professors,* to purchase an Anatomical Museum, Chemical Apparatus, Surgical Cabinet, &c. for the use of the College. At the unanimous request of the Faculty, the Trustees appointed this year the present Professor† of Physiology and Pathological Anatomy, Adjunct to the Professorship then existing of Anatomy and Physiology. The class of '34, '35, numbered thirty-seven, and its Graduates fifteen.

Aware of the defects, and the want, especially of system, in the course of instruction pursued in the Medical Schools of the United States, and feeling the necessity of some uniform standard of qualifications for Candidates for the honors of the profession, in May, 1835, our Faculty respectfully addressed a Circular to every Medical College of our country, calling their attention to these subjects, and recommending a Convention, to be held at Washington City to correct these evils, and to adopt such other measures as might be calculated to promote the general welfare of the medical Profession. The number of delegates to be sent from each School, and their time of meeting, were left, in compliment, to the University of Pennsylvania, the oldest medical Institution in the United States. Her Faculty, however, declined taking any interest in these objects, and our proposition, which had been favorably considered by some of the other Medical Colleges, consequently failed in effecting any good end. Posterity will judge of the liberality and wisdom of that act, which has deliberately rejected medical reformation at the present day, and in a country too, where from the grossest abuses in medicine, its practice has almost ceased to be honorable among men. Spirits of Shippen, Rush and Wistar, and thou time-honored Father of American Surgery,‡ upon whom have your mantles fallen!

But we rejoice to know that the spirit of reformation is aroused in our land. A voice has just been heard in a distant section of our country, loudly proclaiming the necessity for a

*Dr. Dugas.

†Dr. Newton, now Professor of Anatomy, (1838.)

‡Dr. Physick died the 15th Dec. 1837.

National Medical Society,* and but recently, the abuses in the present system of Medical Education, have been forcibly presented to the Legislature of our sister state, by one of the distinguished Professors of her Medical College.† In fact, so urgent is the demand for amelioration in the course of instruction, now generally adopted in the medical Schools of the United States, that a prolongation of the ordinary term of lecturing, is already proposed in more than one of them. And may it not be expected, that when the time for action arrives on this all-important subject, as, come it must, and will be prayed for most devoutly by every friend of the Profession and of well regulated Society, this College, which breathed the spirit of reformation in her very infancy, will not then be found wanting?

A second successful application for pecuniary aid, was made by our Trustees to the Legislature of 1835, and most gratifying to every friend of science, their most sanguine hopes were fully realized. The state generously gave to our College, all her interest in the premium resulting from the sale of the increased stock of the Bank of Augusta, valued at twenty-five thousand dollars. This has at once relieved the Faculty, liquidated every debt, and provided a fund for contingent expenses.

Owing to the disappointment experienced, from the College Building not having been completed agreeably to contract, and to our being deprived of the valuable services of the present Professor of Physiology and Pathological Anatomy by his departure for Europe,‡ the class of '35, '36, amounted only to thirty-two and its Graduates to eight. This we are happy to say is the only exception to the annual increase of the number of Students in our Institution, the only check to her gradual prosperity she has received; and this evidently arose from the causes just assigned. At the last session, with but six Professors, there was a flattering increase to forty-six, being a much larger class than has ever yet been in attendance here. The number who received the Degree last April was fifteen.

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*See Boston Med. & Surg. Journal, also Southern Med. & Surg. Journal.

†Dr. Moultrie.

‡Dr. Newton, now Professor of Anatomy, (1838.)

Since the past winter, the Trustees of our College have been actively engaged in advancing the interest, and enhancing the value of the course of Instruction, by important additions to the regular lectures. They have, as you are all aware, created two new Professorships, and we honestly believe have been truly fortunate in the election of gentlemen of first rate abilities, who we feel fully persuaded, will give entire satisfaction to the respectable and numerous Class now assembling here. There are eight Professorships in this College, on as many distinct branches of medicine, a number surpassed by none, and found existing in only one other of the medical Institutions of our favored country; and we challenge a better division of the departments of the science in any one of them.

By a very recent ordinance of the City Council of Augusta, the Hospital has been placed in a very respectable condition, and upon a much better system; offering now inducements not only to the sick poor of our city, but to all, who may require medical or surgical aid, for a very trifling consideration. This charitable Institution is entirely under the professional care of the Faculty, and I need scarcely add, your attention will be directed to all the interesting cases, which may be introduced into it during the course of lectures.

Besides completing a neat fire-proof house for the purposes of practical Anatomy, entirely apart from the main Building, the Library has been arranged for the reception of books, and many valuable additions have been made to it and the Chemical Laboratory. We have also commenced fitting up an extensive room for a general Museum, and in another one, is placed a grand solar and a superior compound Microscope. An order is now on its way to Europe, and which would have been sent in the spring, but for the difficulty of effecting exchange between the two Countries, for a large accession to our already increasing Library.

In January, 1836, the prospectus of a Southern Medical and Surgical Journal was announced by the Faculty of our College, and in June following the first number was issued from the press. The failure of all similar experiments in this section of our Country, and even that so recently of the Southern Review, in Charleston, have not prevented us from employing our feeble efforts, to be useful in this way, to our day and generation. We would not bury even the one talent, which may have been

committed to our care. The Southern Medical and Surgical Journal has already entered upon its second volume, with an increasing patronage, not only encouraging to its undertakers, but at once securing its complete success.

From this hasty collection of facts connected with the origin and progress of the Medical College of Georgia, you are capable of forming some idea of her actual condition. In the brief space of five years, what has she not effected? What lacks she now for the medical Education of the youth of our Country?—We point you to this Edifice, with its classic exterior and ample accommodation within, alike an ornament to our City and State, and a monument to their munificence, acknowledged by all who have examined it, to be the most appropriate and convenient for Medical purposes in the United States—to that Anatomical Museum, surpassed perhaps by none in our country, for the beauty and usefulness of its preparations—to that Chemical Laboratory, rich in its apparatus for the performance of experiments, to illustrate the various subjects connected with this science—to that Library, containing already many rare and valuable publications, both in the ancient and modern languages—see too that Journal, monthly teeming with original communications of an interesting character, and comprising the latest important intelligence connected with the profession—behold her Professors, already increased to eight, and now prepared to enter upon their respective duties—but above all, see her sixty Graduates, binding up the wounded and healing the diseased in our Southern and Western States; and when you reflect that all these are the fruit of but five year's labor, what, we ask, may not be promised in the future career of this School of Medicine? What has been left undone to render her a blessing to our people?

But this is not all. Connected with the history of the Medical College of Georgia, there is one circumstance which has distinguished her from all similar Institutions of our Country, and upon which perhaps her success thus far has mainly depended. In her very infancy, she has dared to differ from all other Schools in the United States, in the length of the course of instruction.—This may be considered her peculiar and characteristic feature. While the term of lectures in other Colleges is of about four months continuance, the session here is nearly six. Instead of occupying the whole day in delivering lectures for a term of

three and a half to four months, there are but four hours daily, appropriated here to public instruction, and the course is continued from the third Monday in October to the first of April. All the lectures are presented to the Students in the morning, and the after part of the day may be exclusively devoted to demonstrations in Anatomy, and the evening to study. The decided advantages of this plan of instruction in Medicine, must be admitted by all. No one who will reflect on the subject can for a moment hesitate. To a beginner in our science, (and what else are Students,) four lectures daily are as much as his mind can possibly digest; and the regular division of the time, to public instruction, to improvement in practical anatomy and to reading, is infinitely superior to the old system of six successive discourses, and these too, delivered as they are, on different branches of the Profession. The prolonged course, alone, it must be admitted, allows time for minute investigations and manual operations, or study and reflection, for the many various and important preparations for the successful practice of Medicine. It is certainly not alone by *hearing* lectures on a given subject, that we can derive the most profitable and intimate knowledge of it, but we must thoroughly examine and attentively consider it for ourselves. This which is true of all arts and sciences, is especially so of Medicine. It must be patiently studied for years by all who wish to comprehend the length and breadth, the height and depth of its usefulness to suffering humanity. If the science of Medicine is not secured by the purchase of a patent right, neither is it to be acquired by even the faithful attendance on two short courses of lectures. And it is gratifying for us to know that the protracted system adopted here, is recommending itself in spite of self-interest and prejudice to other Schools, while it has received the uniform and unqualified approbation of our Alumni.*

*Notwithstanding the Trustees of the Medical College of Georgia have been compelled, from the want of co-operation on the part of other Schools of Medicine, to forego the advantages of the prolonged Course of Lectures, they are still advocates for it. They believe it offers the best system of instruction to Students. Necessity has alone forced them to the change, (at least for a time,) from six to four months, the period adopted in other Institutions of our country. The Faculty will, however, make all the amends they can for the shortening of the course, by rendering their Lectures as *demonstrative* as possible, addressing the eye as well as the ear.

Among the advantages held out to Students of medicine in this place, not the least important is that offered by the present organization of the Medical Society of Augusta. This Body holds its meetings every two weeks in the library room, to which all connected with the Profession are admitted, and the regular business is the reading of an Essay and its discussion, in which each member successively engages. An opportunity is thus afforded of either confirming the truth presented, or of correcting an error which may have been committed in the lecture-room; while the attention of all present is necessarily directed to the elucidation of one particular subject.

Besides the advantages presented here, by the prolongation of the ordinary term of lecturing, which, if it be not superior, at least obviates one serious objection not only experienced, but even complained of by other medical Schools, and those already enumerated, there are other circumstances which should induce you to obtain your medical Education at the South. Apart from that State pride which every true patriot must ever feel glowing in his bosom, and of that duty which every good citizen owes to the encouragement of home Institutions, where under heaven can you so properly investigate the diseases peculiar to ourselves? In no other place do they occur with precisely the same type, and hence the utter impossibility of examining them elsewhere to the same advantage. A great deal, it will be confessed, has been written on diseases peculiar to each climate, but without exaggerating the importance of investigating them where they prevail endemically, there is one view of this subject which exemplifies not only the propriety, but even the very necessity of studying them at home. Granting that Medicine as a science is based upon certain general and well established principles, the correct and intimate knowledge of which is as essential to the safe and skilful Physician under the Equator, as at the Poles; and admitting too, that these general principles can be equally acquired at any medical College, be its situation where it may, still would you not expect a marked difference between the information given here at the South and that at the north, on the diseases to which the *negro* is most subject. Where would you go to study with most profit, his peculiar habits, the causes, progress, and more especially the proper *treatment* of his *particular affections!* Would it be among the Abolitionists

of the North, the Colonizationists of the West; or would it not rather be *here*, in this his native place, the sunny South, where in despite of abuses and insults heaped upon us, he is better clothed, fed and provided for? Now the blacks comprise about one half of our entire population; in some of our adjoining States they even out number the whites, and they are precisely that class of our community first committed to the professional care of the *young* physician. Self-interest then, and the pure dictates of humanity, conspire to urge upon you the importance of this subject, the acquisition of that knowledge at home which you can never obtain abroad to the same advantage.

Let me not however be misapprehended. I would not be understood as undervaluing the medical Schools of other sections of our country, or as even drawing invidious comparisons. I hope I would not be so recreant to every sense of justice, nor so destitute of every feeling of gratitude. All that is intended by the remarks on this subject, is to impress upon you not only the propriety in the very nature of things, but the importance, even the *necessity* of acquiring as far as practicable, your medical Education at the South. The knowledge of Medicine which you can obtain here or in Charleston, will but the better prepare you to profit by what may be presented you abroad. But in your visit to the North, permit me to make one suggestion, abundantly confirmed both by reason and experience. It is this, more benefit can be derived there by southern Students, from attending a summer course of lectures, than from those delivered during the winter. Besides the rooms being less crowded and the greater length of the days, the Hospitals can then be visited with much greater advantage. There is far more time in the summer for observation and research, and the diseases of that season will approach much nearer the *type* and *character* of our *own*.

So far, however, from rendering myself obnoxious to the charge of illiberality by what has been said, or of refering to subjects calculated to excite prejudice against medical Institutions situated in other sections of our country, I have even purposely avoided alluding to the out-breaking of feeling last winter, in opposition to the whole southern medical Students in the City of *brotherly love*, or to the recent unhappy disclosures about the oldest school of the West. So far too, from discouraging

you from visiting other Colleges and Universities where our science is taught, I can but wish that each and every one of you, may not only enjoy all the advantages and privileges possessed by our country, but those also which exist in foreign Lands. But when you do go forth into the world, I would have you fully prepared to profit by all you may observe in the profession while absent, and convert every fact you may receive abroad to usefulness in your practice at home--carrying with you not only Southern feelings and republican principles, but American, Southern *theories* of Medicine.

Some consideration too with a southern Student of medicine is the congeniality of our climate compared with the rigors of a northern winter. There are here not only fewer temptations to dissipation and less to attract attention from study, but there is also a better security for the continuance of health. We are actually capable of effecting more at *home*, in the way of preparation for the important duties of life, than we can any where else.

Another reason why a Southern Institution of medicine should be patronised by her own citizens, is the improvement it will necessarily induce in the science, for the cultivation of which it has been established. Its immediate privileges, though confined to a few, will be of essential benefit to the whole community. It offers advantages to all connected with the profession, more especially to Students; gives an impulse to its cultivators; elevates its character; and sends out an influence which will be felt in the remotest regions. No one can calculate the value of the impression already made in the science throughout our Southern States, by the Schools of Charleston and Augusta; nor predict the inestimable blessings they are destined to confer upon our people, sustained as they now are in the good work, by the extensive circulation of the Southern Medical and Surgical Journal. Were now, I would ask, the necessity for either patients going North to derive the full benefits of the healing art, or of Students to obtain a complete medical Education?

And where, Gentlemen, else than *here*, does there exist a greater necessity for the creation and endowment of just such an Institution, as this is designed to be, for the good of the Medical profession, and the safety and welfare of Society?

Here, where Medicine was degraded by the last Legislature of Georgia, to the abject condition of the vilest, murderous and

most nefarious trade, by an association with mercenary venders of patent-rights and other nostrums, of the most specious but grossest imposition upon a too confiding and too credulous public—here, where Medicine which had engaged some of the best and most talented in every age and country, and been respected, honored and cherished by the laws of every civilized nation under the sun, was publicly declared by a solemn and deliberate act of the Legislature, to be no longer deserving its fostering care and protection—here, where Medicine is not acknowledged by the laws of the land to be a science, and where there are no restraints to its abuse in practice, where it is denied being worthy of study, and its profession daily ceasing to be honorable; its accumulated facts and learning pronounced to be useless, and the whole science taught to be comprehended in a patented pill, a vegetable powder, or boiling water—and all this by a State which had just appropriated thirty-five thousand dollars to endow a College, for the cultivation of this very rejected science of Medicine. Nothing it seems can equal the folly of this act of the last Legislature, but the height of its own inconsistency. Another such, and the moralist might have appropriated to Georgia, the interrogatories of an ancient Prophet of Israel, who when mourning over the desolations of his country, exclaimed, is there no *balm* in Gilead, is there no Physician there?

As Georgians, Southern men, real Students of Medicine, you are called upon to sustain this much abused, but little comprehended, this neglected and now degraded, this noble, this Godlike Profession. And is it not essential to study man, before being qualified to practice Medicine? The Author of the Universe, when he bowed the heavens and came down upon the earth, as the Saviour of mankind, delighted while he tabernacled in the flesh, to heal the sick, restore the blind and relieve the lame. As the Creator of man, He had of course the most intimate and perfect knowledge of his very wonderful and complicated structure. We read indeed in holy writ, that supernatural power to cure diseases, was given to the immediate followers and disciples of our Lord and Master; but we have also been taught to believe, that the day of miracles has long since closed. Men, however, have arisen in the nineteenth century, who, if they have not discovered the *royal*, at least have invented an

easy and gilded road to the hill of Medical science, on which too, its travellers are rapidly, if not recklessly, propelled by the present popular locomotive agent. This system of medicine acts in unison with that spirit of the day, now threatening our country with the destruction of all order in society; the spirit of agrarian mobocracy. It denies the necessity for study or application to the arts and sciences; it declares all knowledge to be intuitive; it would destroy all distinctions among men, and place the ignorant and the wise, the dolt and the talented, the sluggard and the industrious upon the same footing. It is at variance with reason, common sense and the natural order of things; it sets at defiance all philosophy; it makes even the creature arrogate superior power and attributes to the Creator, for we know God made man ere He cured his diseases. No, Gentlemen, whatever others may think and practice on this subject, we act *here* upon the principle and axiom, that it is impossible for him who has no knowledge of man, to know medicine. And relying upon your support, and the good sense and intelligence of our people, we will proceed to instruct you to the utmost of our preparations and abilities, in this much persecuted and slandered, but most benevolent and useful science; teaching you that Profession, which our Saviour honored with its exercise when *going about doing good.*

ARTICLE II.

Medical Electricity. By M. Antony, M. D., &c.

Electricity is a subject from which the mind of the pathologist and the therapeutist has been repelled by the idea of *great power.* The medical philosopher has been accustomed to contemplate this agent in view of its severe, or its destructive influence. He contemplates the convulsive action arising in obedience to its impulse on the animal nerve—the riven oak after the thunder

storm—the mighty ruin of cities after earthquakes—and the blazing ebullitions of the volcano; and in the immortality of his mind, extending the thought to other worlds, he contemplates it operating through inconceivable distance and with incalculable power on bodies of immeasurable magnitude, not only sustaining, but propelling them in the immense orbits around their common focus; and again, stretching the imagination beyond the limits of human senses and the power of the lens, he theorises, and this whole system, from its centre to its yet undiscovered circumference, is found, by an immense duplication of this agent, whirling around another centre, until the mind is lost in its abstraction from every thing which his senses can realize to him as truth—thus forgetting to contemplate and adore the infinite intelligence and power which created and preserves the universe, he drops back into the mean conclusion that it is a power intactible and unavailable for the minor philosophy of life, disease, &c. Here the subject is dismissed from the mind's presence, without once turning to the other extremity of this infinite physical agent. It is *seen* in the wild and destructive tornado, but not in the gentle zephyr—it is *seen* in the vivid lightning and in the immense velocity of Jupiter or Herschellium Sidus in its orbit, but not in the gentle growth of a plant or flower—it is *seen* in the Aurora Borealis, but not in the human eye—it is *felt* in the discharge of the electric battery, but not comprehended in the action of a muscle—it is contemplated in the motions caused by its transitions for restoration of equilibrium, but not in the repose of nature which that equilibrium alone can secure. Let the mind extend its grasp and comprehend the vastness of power, and the ubiquity of this agent, and rapt by the sublimity he contemplates, bow in humble reverence and adoration before Him who created! Here is the end of the contemplation of the infinite greatness and power. But not less adorable is that same Creator when he is contemplated in the *minuteness* and *delicacy* with which he has endowed this agent. Turning the attention in this direction, we find here, as well as in the great fields of grandeur and sublimity we have contemplated, a wise and kind adaptation of power to purpose—an agent capable, not only of being the physical cause of the smallest events; but even of the primeval stillness and repose in which nature rested before the worlds were.

In this contemplation are to be found materials for all minute philosophy, and amongst the rest, for that of physiology, pathology and therapeutics.

We have, as before intimated, long entertained physiological and pathological views materially different from the received doctrines in these important departments of medical science—views fairly deduced from the elementary truths of nature, and which make up a philosophy of life and of disease, not only essentially different from doctrines received as orthodox in the present age, but in many particulars actually adverse thereto. We have for many years regretted the want of opportunity for placing them before the medical public. We have not hesitated, (as we believe others have ever done with regard to some of the plainest facts of observation) to bring these doctrines before the public, from the fear of ridicule—a penalty too often suffered by innovators on received doctrines, however false, and even absurd and ridiculous these may be; for we feel that our conclusions are enabled, by their inherent power of demonstrable truth, to withstand alone, the combined opposition of all other doctrines, and the uncharitable illiberalities of differing doctrinarians. But we have thought it indispensable to their ready comprehension and adoption, that the whole elements should be at once fully laid before the public, and their truth demonstrated.

In consequence of the want of time and other means necessary for such a preparation for the press, this has not been, nor can it at present be done. Meanwhile, we need not withhold from the readers of our journal, the purpose of which is mainly, *practical utility*, therapeutical *facts* in connexion therewith, which, whilst they tend to draw the mind to the contemplation of the more minute operations of the great physical agent, are available for convenience, as well as the most important purposes in practice.

Eclectic medicine adopts well substantiated facts, without awaiting their suggestion by such imperfect and fanciful theories as may be entertained; and uses these facts both for practical utility and for the development of sound philosophy. These well substantiated facts may be used, and cannot fail to be found beneficial in the treating of disease, as well as in reasoning back to first principles in life, health and disease.

Although we have long been impressed with a sense of the duty of calling the attention of the profession to the application of electricity and galvanism to therapeutic purposes, we have been impelled to the discharge of that duty at this time, by the presentation of the following translation by the fair hand of a young female friend, who had observed the pleasure which we enjoyed on witnessing the salutary effects of "*the Box*," as it is called, in the resolution of some inflammatory affections to which it had been applied. The translation is from an old French manuscript, the authorship of which is not certainly known. The author appears not to have well understood the science of electricity; but to have arrived at his practical facts by close observation of the truths presented to him. Thus it appears he has arrived at a practice with "*the box*" which we shall call *the electrical box*, on principles in strict conformity with the laws of electricity, without understanding them.

The manuscript is a very old one, and must have been written at a day long anterior to the present most improved pathological views; but if we may judge by the directions of the author with regard to the application of the electrical box to many cases we should say that his experiments and observations have brought him to apply his remedy in a manner much more consistent with true pathology, than the generally received doctrines of the present day would have taught him; and that too, without seeming to have any particular pathology in the cases, in the abstract. This arrival at therapeutic accuracy without the guidance of theory, and perhaps in opposition to any theory extant in his day, stands forth in good proof of the correctness of a more humoral doctrine than that which has pervaded the world for the last fifteen years.

In speaking of electricity as a therapeutic agent, it is to be understood however, that it is one, calculated peculiarly to act on the *excitements* of the body. Whatever of humoral doctrine* may belong to true pathology, these (excitements) cannot be denied an important place in the constitution of disease; and their correction, one of the most important of therapeutic purposes. So far then as the fulfilment of this purpose may conduce

*We do not mean antient humoralism, precisely, but a due regard to the state of the fluids.

to the correction of secretions by the return of healthy action, and no further, we may reasonably look for good from the application of electricity. Nor would we pretend to ask, for electricity as a therapeutic agent, a confidence in a uniformity of good effect beyond that of many other remedies in doing good by producing their own peculiar effects on the system.

Morphine will not always procure sleep, or ease from pain; nor is it always salutary in its effects when it does. Calomel cannot always cure disease, notwithstanding it may operate finely on the hepatic secretion when this seems to be the most needed. Nor will it always salivate when intended to do so, nor cure the disease for which it is prescribed, if it do salivate. Nor may electricity be expected to be so guided by sound pathology in every application as to effect a cure, even in cases which are not beyond the reach of all remedies; many of which are presented for the consideration of the practitioner. But there are benefits derivable from the agency of electricity and of galvanism which are less injurious, less unpleasant, and in very many instances far more beneficial than can be drawn from the materia medica.

Preparation of the Box, and the manner of using it on different occasions.

Preparation—On opening the box, rub the cake of sulphur on a piece of white flannel, which should be doubled several times and fixed on a piece of board. Observe in rubbing the cake, to turn it always in the same direction 150 or 200 times, which will be found sufficient to animate it. In order to ascertain if the cake is sufficiently animated, before closing the box, bring it to one finger's length from the thread appended to the board. If it should attract the thread with great force, you may then know that the cake is sufficiently animated. You may then close the box. Place the silk bag* with care fully over the box, leaving the top of the box uncovered, where the cake adheres.† It is this extremity of the cake that

*It should be remarked here, that the box is covered with two bags of silk made to fit it; one of which is kept between the fingers and the body of the box for insulation, and the other in like manner for handling the cover on re-applying it. Ed.

†It will be perceived that the *box* itself is here called the *top*, for it is the *box itself* in which the cake is fixed. It is also observable that in the above directions, it is the bottom of the box to which the electric is attached that is directed to be applied; but such is not the usage with those who apply

must be placed on the most painful part, taking care that your fingers do not touch the cake that is uncovered; for if, by accident, you do, it will materially affect the fluid.

Duration of the application. The application may be continued from twenty to thirty minutes, and you should, before making use of the box, see that the patient have taken nothing into the stomach for an hour before; but if so, wait about an hour before you apply it.

Remedies and Drugs opposed to the effect. All remedies are opposed to the good effect of the box,* especially plasters. You must observe never to apply the box on any part which has been greased; but if any grease or salve shall have been applied to the part, be very particular to wash it off; as whithout so doing, no good can be derived from the treatment, and it would only be apt to break the box.† You must also be very particular not to apply any water to the place for some time after the application of the box. The cake and the flannel should be kept very clean and dry. In damp weather you may perceive that the cake is very difficult to animate. You may then warm the cake by holding it near the fire, to facilitate the preparation.

Treatment of Pleurisy. Two boxes are necessary for this treatment, one on the pit of the stomach, and the other on the side. At the same time, if you have but one box, apply it to the pit of the stomach fifteen minutes—animate the cake about two minutes after for fifty seconds. You may then leave it for twenty-five minutes.

Treatment of sick headache occurring in Pleurisy. If the patient have sick headache and you have two boxes, apply one to the head above the pain, and the other on the side.‡ If you have but one box, after having applied it on the side, you may place it on the head.§ At first, two applications will be necessary in twenty-four hours; but after the first two or three days, one will suffice. In all cases, the sooner the application is made, the better it will be.

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it here: it is the top. The author is not sufficiently clear here on the subject of insultation. Each part, both the cap and cover, must be insulated by the silk—one bag over each when put together; after which, that is removed which covers the top, and leaves it bare for application. Ed.

*We suppose the author means, topical remedies. Ed.

†We suppose the author only means to guard against a useless application. Ed.

‡Of course, the diseased side is meant by the author. Ed.

§It appears from this direction and that for sick headache in malignant fever, that, in case of there being but one box, it is a rule to apply it first to the leading or original disease. Ed.

Treatment of Malignant Fever. Apply the box to the pit of the stomach. After having held it there for ten minutes, you may slide it in the direction of the ribs until you come to the side, where you may leave it fifteen minutes.* You must first be very sure that the box is sufficiently heated.† If it were not, after the first fifteen minutes, you may turn it thirty or fifty times.

If the patient have a sick headache also, and you have two boxes, you may place one at the same time on the most painful parts. If you have but one, after having made the application on the stomach and on the liver, you may place it on the pain in the head. In the commencement of the sickness, you may apply the box twice in twenty-four hours. The fever generally changes in three or four days; you may then apply the box once a day, as the fever declines. You should continue this treatment for eight or ten days after the fever has left.

Intermittent Fever. This fever is treated by applying the box on the pit of the stomach, where you are to leave it ten or fifteen minutes. You may then slide it the length of the false ribs until you reach the liver, where you may leave it fifteen minutes. It is much better to make use of this application on the days of intermission; however, in case of necessity, you may apply it on the day of the fever: but it should be used as near as possible, before or after the fever, as otherwise it sometimes increases it.

Bilious Colic. Leave the box on the pit of the stomach for ten minutes; you then let it slide slowly until you reach the navel, where you leave it for five minutes. You may then place it on the pit of the stomach again. You then slide it the length of the side, until you reach the liver, where you leave it ten minutes.

You must observe never to *slide* the box *upwards*, nor crosswise, but always downward, or *place* it immediately on the part that is affected.

An effusion of troublesome Bile. The patient must lose no time, when he feels a trouble of this kind, but apply the box on the stomach and then on the liver Two or three applications are sometimes sufficient for a cure.

In severe cold in the head. Place the box on the front of the head until you reach the roots of the hair—let it slide slowly down to the nostril on both sides of the nose, alternately leaving it for a minute on each side of the nose. After having applied it ten or fifteen minutes in this manner, you may then slide it from the length of the forehead until you reach the ear, leaving it there for a minute or two.

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*We presume that hypochondrium is meant, where the liver is. Ed.

†This evidently means, *the electric* is sufficiently excited. Ed.

Nephritic Colic. Place the box on the pit of the stomach, then slide it to the navel, where leave it several minutes on the most painful part.

Disorder of the stomach. Place the box on the most painful part. When changing the box from place to place, observe never to slide it upwards; it should always be passed downward.

Rheumatic Pain. Place the box directly on the part affected. If the pain is fixed you may slide the box downward, but if it is not fixed, and the patient has suffered for a great while with the aforesaid pain, it will be necessary to make use of the box for thirty to fifty minutes every day. For a cold, three or four applications are generally sufficient.

Wet Nurses. Wet nurses who are subject to pain in the breast, have found themselves entirely cured by means of this application. In this case, this instrument should be used as early as possible, in the manner above mentioned in other cases.*

Sore Throat. Application of the box, local.

Sore Eyes. For sore eyes, the box should be held lightly on the eyelid, and often removed.

Blows, Bruises, &c. Place the box on the bruise, or part most painful, leaving it there for some time. Bleeding is not necessary in these cases; but the application should be made as soon as possible. The danger of the disease stops after the first application. Two applications are necessary during the day. If there is danger of extravasation of blood, continue the application for several days.

Treatment of Children. There is no danger in making use of the box in the diseases of Children. So contrary is the fact, that it affords them more sure relief.† There is however this difference to be observed in the use of the box with them, that it should not be so much animated as for adults; and it should be held lightly on the part that is to be treated, about ten minutes.

General observations. The use of the box is admissible in all the diseases to which the human body is subject; the only prerequisite being to discover the part affected, in order to make the application. The great merit of this remedy is in establishing the regular course of the humours; and it is often the case

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*This is a case in which, more than any other, we have had the pleasure of *witnessing* the salutary influence of the electrical box. For the last twenty years we have been depended on for services by most of the French families in this place; amongst whom, and some of their immediate friends, the electrical box has been in use, and have known of its frequent application; but we do not recollect to have ever witnessed amongst them, a breast which suppurated. Ed.

†I have found this eminently the case in the use of galvanism. Ed.

that these erroneous directions of the humours are caused by too much or too little perspiration, the patient must observe care in sheltering himself from cold or dampness, at least during the treatment.

We have gleaned from the manuscript the following additional particulars relative to the application to other cases.*

Toothache and Inflammations. In these cases the electric was rubbed about 200 times. The box was then shut and insulated by the silk, except the top, and given to the patient who held it on the painful part for fifteen minutes. The greatest part of the cases of toothache treated in this manner, were cured in the quarter of an hour. In some cases, temporary relief only was obtained—the pain having afterwards returned, requiring several re-applications.

Interruption of the Courses. Women who suffer an interruption of the natural courses, have found great relief by passing the box below the stomach. If their courses are still irregular the treatment should be used in the most critical period,† and should be continued at least three or four days.‡

It is evident, from this manuscript, that the author was not a physician; but that he was a man of science, for his day, and an honest observer. It would be supposed further, that he was a landlord with many tenants, and that these and his own immediate family, were the first and main subjects of his care; and that in consequence of his success with these, others were afterwards induced to visit him from a distance.

Now, even with this view, we should scarcely be inclined to notice statements coming as these have, from an individual not known in the profession, but for some knowledge of their truth from observation, and their analogy to galvanic operations, of which we have had decided experience; and in both of which the great therapeutic fact is established, that *the positive pole, or inducting point, produces sedation, or what has in old surgery been called discutient effects, and the negative pole, or point of*

*We find also on seeing the French manuscript, the following caption of a chapter:—"The Friend of Nature. Chap. vii. of Physic." And in pencil, "By Sousselier, Lord of many manors." Ed.

†By this, we understand the author to mean, the time the menses should flow. Ed.

‡In giving the case of his son, aged sixteen, who labored under fever and what he calls putrid looseness, the author dates the case "April, 1783." This gives us some idea of the period of these experiences. Ed.

eduction, on the contrary, exalts the excitement. But so valuable is medical truth, especially such as tends to the immediate amelioration of the sufferings of humanity and disarming the dangers of life, that we should not be afraid nor ashamed to take it wherever we may find it. Every physician is aware of the truth, that most of our valuable practical facts are from the bold and reckless experiments of the unscientific whose ignorance has made them free to experiment where science would, in humanity, have restrained the hand.

The intelligent reader will at once perceive that the apparatus, the use of which is described in the extract we have given, is a kind of economical electrophorus. The specimen before us whilst we write, is a round, tin box, precisely three and a half inches long, including the cover, and two and a half wide. The cover is so made as to fit well on the box, and is itself two and seven-tenth inches long. The box is one and a half inch deep, and is filled with a cake of sulphur which projects half an inch above the upper part and terminates in a plane, polished surface. We have seen some specimens in which there appeared to be seme metallic oxyde combined with the sulphur, or the latter had been so burned in preparing it, that its color was materially altered.

This cake of sulphur is an electric, and when the cover is attached to the box, the electric stands in the cavity of the box, intactible.

In the preparation of the box, the two silk bags are used as insulators; one for the box and the other for the cover; but on its application, the insulator is removed from the cover, whilst the box which contains the electric, is held in insulation by having the silk bag over the whole of the tin to where the cover comes. Thus, whatever charge may have been created by the friction, is preserved from every conductor except the atmosphere within the cover. The board which is covered with flannel is about nine inches wide, and is of circular shape; having appended to its edge a light cotton thread about eight inches long.* This thread is the electrometer, and the board covered with flannel is the exciter or rubber.

*Which should have a cork or pith-ball attached to its extremity.

The instrument, or electrical box, might be greatly improved by substituting shellac, or amber; or perhaps hard resin or sealing wax, for sulphur.

It is a point on which there is some doubt, whether this apparatus operates by communicating gradually to the part, a possitive charge communicated to the box by the excited electric, through the medium of the atmospheric air the box contains; or whether the box remains negative, and by its near approximation to the positively charged electric, acts with power on the possitive electricity of the diseased part, by attracting it into itself? To the latter of these opinions, we are most inclined. This opinion is favored by the duration of the power in the box when well excited, or, in the language of the author, "animated." It is also favored by the fact, that in none of the boxes is the electric designed to be so large as to allow its excited edge to touch the sides of the cover when placed on the box. It appears to us that the polished surface of the end of the electric is the only point charged, primarily at least, and that this surface is itself properly insulated from the box by that part of the electric intervening between its excited surface and the edge of the box in which it is incased. But it may be otherwise. It may be the case that the atmosphere within the cover conducts the sensible electricity slowly to the cover: dry, atmospheric air, being a bad conductor. This idea is favored by the fact, that positive electricity and positive galvanism inducted to a part, produce sedation in that part.

Mode of action of the Electric Box. Of the physical power of electricity, galvanism and magnetism on diseases of the human body, there remains now no doubt whatever. No one can dispute this fact who is satisfied with any fact on human testimony; and credence is not asked as an act of abstract faith, nor as the mere suggestion of theory. And if not willing to receive other human testimony than his own, it is his own fault if he do not test the point, which when fairly done will afford him the testimony of his own senses. We should have said there is a class of men whom we may except. There are those, (and there are many of them,) who are always ready to declare against even demonstrated truth, merely because they do not understand the rationale of that truth, or the laws whereby that truth is developed; and such are surely the greatest impediments in the

curriculum of science. We do not intend by this to be understood to mean that men of science should be so credulous as to believe every thing that is told them, on partial or superficial observation. On the contrary, every man who professes fealty to science, should consider that on him rests the responsibility of the guardianship of her treasury of pure and holy truth. He should scrutinize well the facts alleged, and the authority, and investigate well the train of antecedent phenomena which may have existed in the line of causation. But every man of profound science has learned to know that in the immensity of the wisdom with which nature has been wrought, there is often to be found, when least expected by him, the displays of that infinite wisdom to which he is a stranger. Every such man has also learned, whilst he guards well the portals of science against the ruthless entrance of error, to ply well those unalterable laws of philosophising, which are stern enough to turn him against his own vain and pre-conceived notions of the way to truth, and place him in another, and to him a new one, adverse to all his interests of pride, ambition and profit. When a fact is alleged on good authority, such as would be received in other matters, his philosophical investigation of the subject is at least demanded before he can in honesty deny the allegation; because he knows there is no effect without competent and appropriate causation; and that fact therefore declares the existence of this. And he knows that when an effect has been once produced by given causation, that the whole of the same causation must invariably be succeeded by the same results. It is therefore incumbent on him (not to deny the fact, but) to demonstrate the error in the premises, or the cause of it in the conclusion, before he has a right to deny. The denial of a fact alleged on such testimony as we have not reason otherwise to doubt, is a ground which no man has a right to occupy, because no man has a right to suppose there are not still in the arcanæ of nature, truths—many truths which he has not in all *his* wisdom, yet understood. But to return.

Need we allege facts in support of the assertion just made, relative to the truth of the physical agency of electricity, galvanism and magnetism, on the human body, in health and in disease? The reader may prove for himself the power of electricity by the translation of excitement from one site

to another, by the proper application of the current of positive electricity from a point of increased action, whilst the subject is insulated, and receiving it from another point. This we have done in several forming abscesses, and even in a venereal bubo whilst there was the cause of the morbid excitement still remaining uncorrected. In this case, the bubo, into which the current from the prime conductor was received, was resolved, and the point on the leg from which it was educted, (the subject being on an insulating stool,) was vesicated, and the patient fainted. It may be exhibited still more simply by the eduction of electricity by acupuncture, from a large joint, for instance, suffering from acute rheumatism, as in the case related a few years ago by Baron Dupuytren, who, after introducing some fifteen or sixteen needles into a rheumatic knee, and connecting their outward extremities by a wire, obtained sensible sparks. It is but fair, however, on giving this fact from Dupuytren, to state that he took special care to say that the relief afforded by this operation was not attributable to the eduction of electricity. But the Baron appears to have been one of those men who are unwilling to admit the existence of the relation of cause and effect between successive phenomena, however uniform the sequence, for no better reason than that they do not themselves see *how*, or in what *manner*, this relationship is exercised. Doubtless Dupuytren had not the idea of accumulated electricity in an inflamed joint, and that too, from the internal resources of the system, in all his pathology of inflammation or of inflammatory rheumatism; consequently he could not risk so exalted an opinion as his own on the point in question,—a fact, abstracted from known theory.

In the application of the box, as above directed, there is but one point at which the agent acts, and still resolution is generally the consequence of faithful and timely application. These three cases illustrate the physical—the therapeutical agency of electricity, by induction, and by eductive, jointly and severally.

The same may be said of passing a steady current of electricity into the body at the point of morbid action, without insulation. In the former of these instances, it is clear that if the box receive a charge from the charged or excited electric, it must receive it gradually, and as gradually introduce it in the seat of excessive action to which it is applied, producing there, its resolvent effects,

whilst the electricity is passed off again diffusively from all other parts of the uninsulated surface: but if the near approximation only tend to increase the negative power of the box, (as such arrangements are wont to do,) this box becomes thereby a more powerful attracter of the positive electricity superabounding in the diseased part, the eduction of which relieves the pain; in which case, it must, according to a well-known law, lessen the accumulated electricity in the part diseased, by attracting it for that equalization to which all electricities tend; and without which tendency, primeval stillness must pervade all the kingdoms of nature.

Of *Galvanism* the same may be said; for its effects are not less, but even more conspicuous, because it is susceptible of more steady application for a length of time. So signally is the discutient power of galvanism displayed at the positive pole, when the body is not insulated, and the charge is consequently educted by the conductors in contact, or when the eduction is made purposely by insulation and application of an educting conductor to a suitable point at some other place; that whilst the *positive* pole is in application to one denuded surface and the negative to another, the former point will remain stationary or cicatrize, whilst the latter (the negative,) doubles the intensity of the inflammation which the denuding blister left; and in some instances will sphacelate. This experiment may be made at pleasure by any one not satisfied of the fact.

For nearly twenty years past, we have used this application, in cases of perpetual convulsions and epilepsy in children, with the best effects, as frequently witnessed by physicians and pupils in this place. And so evident has been the power of galvanism that, sometimes, when the plates were removed for cleansing the sores, the convulsions which had been suspended for many hours, or a day or two, have returned in the short space of time occupied in this service; and have again yielded as promptly, to their re-application.

On the physical agency of magnetism in therapeutics, we need only refer our readers to the prompt efficiency of the magnet in removing and restoring pain, as in tic douloureux, in some of the London hospitals.

Whilst these facts of experiment and observation are found to identify the natures of the (so called) three powers, with no

other difference than that of habitude, they tend to the unequivocal establishment of this great therapeutic fact, that *whatever may be the true philosophy of inflammation, both the vitrious and metallic electricities, (electricity and galvanism,) if we may pluralise them, are available as amongst the most certain and powerful revellants of excitement the therapeutist has at command.* These differ from other revellants, revulsives or translators of action in that the positive pole, exerts a positive discutient or resolvent effect on the morbid action of the part to which it is applied, by a discutient power of that pole ; whilst the negative when located or stationary, acts on the part by the same principle as other revulsives, as vescatories, rubefacients, &c. in drawing action to the point, (and fluxion succeeds *irritation* or increased action,) to the detriment of the excess at the seat of disease.

One box then may be said to act, in effect, as a discutient. How the second box operates, we know not, unless it be conjointly, or simultaneously, or successively in the same manner on another point of morbid action, having the negative pole unlocated, as to apparatus, but every point of conducting contact becoming the negative pole ; for we cannot conceive that, when both are similarly charged, (which is the direction) that they can make efficient opposites. Moreover, when there are not two boxes at hand, the same one is directed to be applied to different places, alternately.

Whether, however, the electric box acts by having its negative power increased by the charged electric, and thereby withdraws with the greater attracting force the excess of electricity from the seat of disease; or whether the induction of a current of positive electricity simply repels the positive in the part, it is unimportant in a therapeutical point of view. Let this be referred to the domain of abstract science, when it may be easily determined. Our business is at present with therapeutics. It is well directed, and observed experiments alone which afford us the truth in regard to therapeutic powers. It is from observation chiefly that our knowledge of materia medica is derived, and we are satisfied with the *fact of the power* of any article or means which we see uniformly and immediately succeeded by another phenomenon, being the cause of that phenomenon. The deduction of the true theory of causation is not more difficult,

because here too the facts as regularly succeed the previous phenomena, in immediate and regular succession.

Healthy and disordered function and condition make up the sum of the phenomena of life, health and disease. Causes precede morbid action, whether of excess or default—this morbid action becomes again the cause of new phenomena, which again are cause of others and so forth, to make up a chain of phenomena consisting of successive cause and effect. Morbid action, whether of excess or default, cannot be without cause, either active or passive, or both. The causes in such cases are morbid action, or excess or defect of material physical power or powers, of a nature disproportioned to the effect of physiological condition and function. So far as action is concerned itself as cause, electricity with its sedative and exciting powers seems to be suitable to the end of changing that action, if it can be properly manipulated: and so far as material physical powers present in the system may be concerned, *action* is the mean whereby alone they are removable. This removal is demanded—absolutely demanded by that law of philosophy and of nature, whereby effects are perpetuated, so long as all their causes continue. Here again, electricity, with the double and opposite powers of its two poles, seems adapted to good use in either excess or default of action, if it can be duly manipulated as a therapeutic agent. And when we contemplate the fact, that the lightning of heaven, with its wild and tremendous power, has been arrested by man and made a plaything for babes, it does not seem a hopeless purpose to look for the construction of apparatus whereby electricity may be rendered extensively applicable to therapeutic purposes. Knowing well the fact of the differing powers of the two poles, the positive and negative of electricity and of galvanism, and the north and south of the magnet, we feel it a duty to call the attention of the profession, whose great end is the best service of humanity, to any approximation toward success in obtaining the means of application.

We hope to embrace an early opportunity of again calling the attention of the profession to this subject.

Part II.—REVIEWS AND EXTRACTS.

Notice of Dr. G. G. Sigmond's *Lectures on Stramonium and Digitalis;* as published in the London Lancet, and subsequently in the American Journal of the Medical Sciences.

We meet with few things in foreign or domestic journals, which possess an equal proportion of practical value with the lectures of Dr. Sigmond on materia medica, which are in a course of publication in the London Lancet. We notice the present subjects from the last (August) number of the American Journal, as they are of great and peculiar therapeutic interest.

On the use of Stramonium in Neuralgia. Dr. Sigmond found that in some of those neuralgic affections which occasionally baffled every expectation, and by which he was driven from one remedy to another, stramonium sometimes answered the desired end. He states that Dr. Begbie considered the narcotic properties of this plant as decidedly superior, in some cases, to that of other medicines of that class, and he details instances in illustration of its sedative effects. Dr. B. had perceived in no instance, any bad effect, except once an unpleasant nervous sensation in the throat. Dr. Elliotson, of St. Thomas Hospital, had treated a neuralgic affection of very severe character, by giving a grain of extract of stramonium an hour before the accession of the paroxism, which was intermittent. On the third day the pain was mitigated and the dose increased one half. The case was well in ten or twelve days. In another case, it was used in combination with mercury, and on the production of ptyalism, the cure was effected. Dr. Sigmond speaks of the consciousness, of not having yet precisely ascertained all the points connected with neuralgia. We do not recollect to have seen Dr. S.'s pathology of neuralgia any where detailed; but from the expression just mentioned, we are inclined to the opinion that the difficulties to which he alludes are in his *pathology.* He is probably with the great current on this subject, in considering neuralgic affections, or rather, the spinal irritations from which they arise, *primary* diseases; than which there has probably not been a more troublesome error in pathology since the day of Broussais' glory, whereof we speak, although much of his error yet floats on the superfices of the profession, as of a thing which *was.* And, we would ask, must *this error* too, like his, have its vain and injurious course around the world, and be taught, and used, and be fashionable; inundating the medical mind by its universality, and obscuring truth by its frothy ebullitions for ten or fifteen years, before physicians can subject

themselves to the government of the wholesome little law of nature which allows no effect without competent causation? We do trust that men will consider—will reason. We do look to those who had minds incapable of bowing to the injurious dogmas and sophistries of Broussais, here too, to preserve their intellectual dignity, and refuse to worship at the shrine of *this* error: for we are much inclined to think that Broussaisism is its legitimate parent. And under this impression, we would willingly, if we can do no better, *make parties*, that some at least may be saved from superficial reasoning, and its common consequence injurious error—then we shall hope that a redeeming spirit will soon again pervade the world and wrest humanity from so afflicting a thraldom.

We would not be so exclusive as to assert that *primary* irritation of the spinal column cannot possibly occur; no more than we did that primary gastritis and interitis could not. These we well knew could and did occur; but when they did, we knew them well by their *characters as such*, and not by the *consequences* in the progress of a fever toward, and its termination in disorganization and death. But of the occurrence of that (primary spinal irritation) we are not so sure; for we have not yet found the first case, except from peculiar mechanical causes. And when spinal irritation is in question, we must know its existence by its own symptoms, and not attribute to its supposed existence, effects, or morbid phenomena, which may arise from other causes, and in its stead. We cannot *make* effects *neuralgic*, unless they are so. No error can be more fatal to correct therapeutics, than to suppose, and be guided by that supposition, that a cause of disease is of a kind, or in a place where it is not. From the moment this is done, error begins; and to say the least of that error, time is lost, and the self-preserving resources of the system become at once the only rational hope; for the practitioner is undertaking to guide his barque over the (would we could say pathless) deep, without the helm of true reason. In this case, it is true that, many times, the spinal irritation itself may be corrected to a greater or less extent, or even, in some cases, permanently removed, with all its *own* consequences. But it is not unlike sweeping a house whilst the trash continues to be supplied; or, in the latter case, stopping it from passing into one room, whilst it flows freely and injuriously into another. Here metastasis is effected, or the powers of nature alone, eradicate the evil causation. We would not pretend to say that cases of neuralgic affections do not occur "which occasionally baffle every expectation, and by which we are driven from one remedy to another." But we are confident of our justification in saying that much more *radicalism* is needed in the profession—especially in pathological investigations, and more particularly still, in the etiological department of this part

of medical science. No diagnosis—no prescription can be a truly scientific one, which is not founded on thorough research into the *real* origin of the morbid phenomena presented: for even if it be the case, that the first causes have been fugitive—only leaving their effects behind them, or have been removed by nature or art, it is necessary that we should *know* it—that we should know that we have only to attend to the correction of the remaining effects; and not be induced to direct indications to causes which no longer exist and operate. Had Dr. S. taken a thorough view of the origin of his neuralgic affections, doubtless he would, in most of them, have found adequate cause of the obstinacy; and very possibly have discovered that, without resorting to so dangerous a drug for internal administration as the ext. stramon., he might have relieved or cured most of those cases by means comparatively trivial.

Of smoking stramonium, as a remedy for asthma, Dr. Sigmond states that the first legitimate introduction of datura stramonium, as a remedy for asthma and other pulmonary affections, was by Dr. Sims, who strongly recommended smoking the herb. And that in 1802, Gen. Gent, on his return from India, gave to that learned physician and accomplished botanist, a remedy which was used in the east as a specific for relieving paroxysms of asthma; the preparation of which was as follows: The roots of the wild purple-flowered thorn-apple—(the datura ferox,) were cut into slips as soon as they were gathered, and exposed to the dry air, in the shade, until all moisture had completely evaporated. They were then beaten into fibres, very much resembling in appearance dry hemp. This substance was, when used, placed in the bulb of a pipe, either with or without tobacco, according to the previous custom of the patient; and then inhaled, after being kindled. This plan had received the sanction of the highest medical authorities in India; and Dr. Anderson, then physician general at Madras, not only recommended it, but is said to have had recourse to it himself. Dr. Sims administered it to the daughter of an eminent physician who labored under phthisis pulmonalis, combined with asthma, as it appeared to him, from the frequency of the paroxysms of difficult breathing not usual, at least in so early a stage of pure phthisis. With the view of alleviating these distressing paroxysms, he recommended a trial of the datura, as given to him by Gen. Gent. The relief obtained far exceeded his expectation, and although the lady gradually sank under the incurable phthisis, yet she continued to experience, throughout its progress, even to the last, the greatest comfort from its use. He then recommended it to Dr. Toulmin of Hackney, who had for several years suffered frequent paroxysms of asthma. He was much benefitted by its use, and having exhausted all the stock given him by Dr. Sims, he determined to supply its place with the

datura stramonium, which he found equally serviceable. During the three first months, to April, 1811, Dr. Bree saw eighty-two patients who had smoked stramonium. Those of them who had derived no permanent good effect, amounted to fifty-eight out of that number—the remaining twenty-four had been all of them more or less injured, and some of them destroyed by the practice. Of fifty-eight, eleven certainly were not in a state to try the remedy. Whether the others derived even temporary benefit or not, we are not informed. Dr. Bree's observations went to shew many ill consequences from its use, such as, epilepsy, a rapid supervention of a variety of distressing symptoms, &c. But these results occurred in highly debilitated constitutions, and in cases of organic changes in important viscera, and where disease would under any circumstances, have rapidly developed itself. Gen. Gent, who introduced the remedy from India, subsequently fell a victim to its deleterious powers. He was found by Sir George Gibbs, a physician of high character and talent, who was called to him at Bath, comatose, appeared stunned, his recollection impaired, his head reclining on a sofa, pulse scarcely perceptible—even the carotid arteries had little or no pulsation. On inquiry, it appeared that the gentleman had smoked stramonium the previous evening, in consequence of his having been afflicted with shortness of breath. After various treatment, under which he seemed to mend a little in several respects, he expired suddenly on the fourth day, whilst sleeping, or immediately after waking. He was of full habit, and had, without any consultation with his medical adviser, smoked largely of stramonium three or four times.

Dr. S. concludes the practice with this article thus:—In pure spasmodic asthma, during the paroxysm, stramonium may be smoked, when there is not the slightest tendency to apoplexy, epilepsy or paralysis. When dyspnœa is present, or constant difficulty of breathing, it is not to be recommended, nor when the embarrassment is to be attributed to hydrothorax or to diseased abdominal viscera. It is only to be pursued for a very short time, and the intervals between inspiration should be long. When the slightest giddiness comes on, it must be immediately given up. The saliva should be swallowed. The patient should if possible, avoid sleeping immediately after its use, and in preference, should take moderate exercise.

Treatment when poisonous effects supervene during the use of Stramonium. Dr. Sigmond recommends the discontinuance of its use when, during the smoking of stramonium, incoherent talking, flushed face, and alternation of vision supervene; nor should it be persevered in, if relief be not very speedily obtained. The fumes of the more decided narcotic, opium, inspired only once or twice, has as much influence as a grain of that drug. Should stupor, delirium tremor, convulsions and coma occur, it

will be found that affusion of cold water on the head, or sprinkling it well with water, slightly acidulated, will be the best step to be taken for instantaneous relief; and then, the internal administration of different stimuli. One of the most striking means of restoring the patient under such circumstances, if the apparatus be at hand, is the injection of a lavement containing camphor; for no sooner is it introduced than it is found in the pulmonary transpiration, which you will immediately recognise by the odour of the expired air. The quantity used must be very small, for the stimulis to the system is very great. Ten grains of camphor is as much as should be administered in this way—large quantities being intoxicating and injurious.

Mode of action of Digitalis. Dr. Sigmond is of the opinion that this article decreases the irritability of the constitution, diminishes the frequency of the action of the heart; and that, hence the circulation through the system becomes so slow as to allow the kidneys much more time to take from the blood the watery portion which they secrete: for, says he, we have no reason to believe that these organs are stimulated to any increased action by the herb. Instead of diminishing action in one instance and increasing it in another, Dr. S. attributes the apparently newly-acquired energy of the kidneys, not to any new energy imparted to them, but to their having a longer period allowed them to act on the fluid which is detained in the renal vessels. Dr. S. thus accounts for the apparently powerful stimulant effect of this medicine on the system in some instances. When, says he, from a diseased state of the kidneys, the due separation of the fluid from the blood does not occur, or when, from pulmonary disease, the due transpiration does not take place, for the circulation is slowly carried on at first; but if no elimination from the blood take place, the whole frame is thrown into disorder and a febrile state produced. Dr. S. finds that in the form of powder, it is liable to produce considerable irritation of the stomach, and influences the brain so as to bring on a state resembling the approach of intoxication. Upon the generative system its power is strongly marked, bringing on seminal secretion in the male, and in the female, symptoms similar to those experienced by females, premonitory of the approach of particular periods. All these phenomena however, he attributes to the retardation of the blood in the capillary system. Dr. Mossman in the year 1806, was the first who drew the conclusion, from its influence on the minute arteries, and the diminution of vascular action, that it was strictly a sedative; and he went so far as to state that he could obviate pneumonic inflammation with as much certainty by it, as he could arrest an intermittent fever by means of the bark of cinchona.

Of the use of Digitalis in Dropsy. Dr. Sigmond asserts that there is no remedy to which, from its effects upon the urinary

excretion, the name of diuretic is given, which more certainly, speedily and effectually evacuates the hydropic fluid than this herb. He proceeds:—When it is thought right to employ it, *be on the guard.* Never continue it too long; and always be wary in attempting to increase the dose. It is not a remedy to be trifled with. It produces the most appalling effects where it has been injudiciously prescribed, and has been the fertile source of fatal sorrow to those who have indiscriminately recommended it, and to those who have followed bad advice. With regard to its use in dropsical effusions there is considered by him, as well as by Dr. Lombard, a state of election which is necessary for its safety and success. Where, says Dr. S., there is great general strength and vigour, which has been unimpaired by the ravages of disease, when the muscular fibre is tense, the skin hard and dry, if the individual be inclined to corpulence, if the countenance be at all indicative of determination to the head, or veinous relaxation, or if the habit of the bowels be slow, and difficult to be called into action, it will generally be found not only useless, but occasionally injurious. Dr. Withering first drew the distinction of the cases of hydropic effusion in which digitalis would be found unsuccessful, and Dr. S. believes the truth of this distinction is confirmed by the great majority of medical men who have been in the habit of employing it.

On the other hand, the experience of the most acute and intelligent practitioners has satisfactorily demonstrated that there are states in which it is pre-eminently efficacious. These are, weak, delicate, irritable constitutions, where there may be present much laxity of fibre, a thin, soft, smoothe pale skin, which, in the anasarcous limb seems to be transparent; where, upon pressure on the skin, there appears to be no elasticity whatever, but the impression sinks deeply, and there is no evident power of resistance, where the emaciation of the other parts of the body is very striking, when the countenance is very pale, when there is feeble or intermitting pulse, when the constitution has been much broken down, more particularly if it were originally strong, sound and robust, where any indulgence in spirituous liquors, bad habits of life, the action of mercury, or any debilitating cause has produced the mischief; in such cases digitalis will be indicated in preference to most diuretics.* It should be remembered, however, that it is *merely* the evacuation of the hydropic fluid which is effected, and that this is not more than one step in the cure of the disease, more particularly if that disease be connected with a disordered state of the viscera, or if it be attended with paralysis. It will, however, do that, which is sometimes of as much importance as any object we can have in view; it will

*This is corroborated by Dr. Hooker's use of this article in delirium tremens.

alleviate the distressing symptoms, and gain time, during which the system may be enabled to rally and then sustain the impression of well directed, energetic remedies.

The disregard of the distinction of the different states in which it is deleterious or beneficial, has given rise to many contradictory statements of its diuretic effects. By attention to these, which are of vital importance, its then judicious use cannot, in the opinion of Dr. Sigmond, fail to afford relief when it is judiciously employed.

Cases in which Digitalis may, or may not be employed. In hydrothorax from any obstacle to circulation, as hyperthrophy of the heart, when it is the termination of long protracted disease of the thorax, if it be not accompanied by disordered condition of the valves of the heart, Digitalis may be employed.

In ascites and in anasarca, dependent on disordered states of the exhalent vessels, which throw out a larger quantity of fluid than can be absorbed, good effect is produced by diminishing the impulse with which the blood is directed to the capillaries; and that fluid is presented to the kidneys for a greater length of time, whereby the kidneys are enabled to secrete much more than they could otherwise. It may be the case, that Dr. Sigmond has settled the digitalis practice thus, more from his theory of its *modus operandi*, than from actual observation in particular cases. In the use of an article of so much power—dangerous power, as digitalis—the practitioner should look to this with great care.

In ovarian dropsy, digitalis is seldom found to succeed.

In hydrocephalus in infancy, it is highly noxious. Many practitioners prefer lowering the action of the system, when necessary, before the use of digitalis, by ample depletion. Dr. S. thinks *other diuretics* will be more serviceable; and urges it as a matter of deep importance, to avoid, if possible, the junction of these two means of cure. It is true, he says, that after venesection, digitalis is more diuretic; but he adds, that the most fatal effects have occurred from giving the herb after blood-letting had been practised. This point is strongly urged, if our memory serve us, by Dr. Lombard, of Geneva, for whose observations on this subject, see a former number of this Journal. In the following injunction, Drs. Sigmond, Bailden and Lombard agree:—During the action of digitalis for the cure of dropsy, the recumbent position is preferable, for it is observed, on experiment, that it decreases the action of the heart most, when the individual is lying down. Dr. Bailden, who repeated the experiment several times on himself, found that after digitalis had taken its effect, as long as he stood erect, his pulse, which was more than one hundred, was not diminished in frequency; when he sat down, it was reduced to seventy-five; but when he lay upon his back, it became as low even as forty. He observed the same effects in all to whom he saw cause to administer it.

Nausea, languor, uneasiness, or general irritability, commonly arises under the use of digitalis, and seem to so accompany or contribute to its good effects, that it is deemed improper, and inquiring to its diuretic properties, to counteract these by the combination of aromatics, &c.

Deleterious effects of Digitalis. These, Dr. Sigmond informs us are, first, primary; and are evidences of disturbance of the alimentary canal, they are nausea, vomiting, purging, excessive depression of spirits, fainting. When the poisonous effects are produced after the symptoms of disturbance of the alimentary canal, these cause a vertigo, drowsiness, and frequent faintings—the skin becomes bedewed with a cold sweat, tongue and lips swell, profuse salivation occurs—sometimes the action of the kidneys is totally suspended, at others, it is increased, with frequent desire to expel the urine; or at others, inability to retain it is felt. The pulse intermits and is slow, and delirium, hiccough, cold sweats, confused vision; sometimes convulsions, and frequent faintings follow, till death closes the scene.

There is a point, says Dr. S., at which we can no longer administer digitalis. This has been ascribed to its accumulation in the stomach; but Dr. S. thinks it is rather dependent upon the very low tone to which the vascular and muscular systems have been lowered; for neither by vomiting, nor purging has digitalis been thrown off. The same results occur after the endermic use of this article. It is generally at about the eighth dose, says Dr. S., that the baneful influence of this herb is visible; and this often happens, whether the dose has been large or small—whether diminished or increased; whether it has been given twice or thrice in the course of the day. This fact seems to urge the great necessity of caution in its use. Drs. Sigmond, Hallorin, Hamilton and others, consider digitalis as a narcotic; first stimulating, and afterwards, as a sedative.

Use of Digitalis is Phthisis.—Dr. Sigmond ranks digitalis as a curative agent in this disease, only in the early stages; but says it may, in its latter moments be important as a palliative. The high character in the treatment of phthisis, which this article has obtained, has arisen out of its use in the early stages, before the breaking down of tubercles in the lungs; for, says Dr. S., according to observation of all the cases found in our periodical literature, the opinions of the most enlightened men of our profession, and the quantity of experience his own practice has afforded, he is convinced of this fact—a fact which every honest man is ready to endorse, that *when actual disorganization has occurred, no remedy that we have as yet discovered, will lead to the eradication of the disease.* This fact attaches peculiar importance to a familiarity with the premonitory symptoms of tubercular phthisis, as *then*, we may ward off the threatening danger. The golden maxim, "*venienti occurrite morbo*," Dr. S.

considers is no where so rigidly to be enforced, as when suspicion is excited that the system is predisposed to this melancholy disease; not only because it is the only time for the hope of victory over it, but because it selects the most interesting subjects for its victims; and at a period when our sympathy is most excited in their favor. "There are some," says Dr. S. who "lay the flattering unction to their souls," that they have cured the *true genuine* pulmonic phthisis, where tubercles have been fully developed, their structure broken down, and they have poured forth purulent discharge." He *assures us, such have been deceived.*— To the truth of this we can testify, and have only been brought to a correct diagnosis by the *recovery* of our patients under the use of prussic acid and of digitalis; for the fact of *recovery* is sufficient to correct the error of diagnosis with any practitioner who will contemplate the functions of the lungs, in health, and their real condition in *true, genuine tubercular phthisis.* Here, Dr. Sigmond, lays down the proper grounds for diagnosis, between those cases so calculated to deceive the practitioner, and genuine phthisis in its early stage:—There are instances, says he, nor are they very uncommon, where even fever, attended with copious expectoration of viscid mucus, (and we will add *genuine pus.**) has worn the fatal appearance, and when it has been stated that the individual is in *a rapid consumption*—one of those false terms which mislead.— Hectic fever has been present, attended with morning and evening exacerbations, night sweats and wheezing cough. Chlorisis has likewise borne a somewhat similar appearance; there may be a harrassing cough, pain in the side or chest, rigors, succeeded by great heat, and not unfrequently, night sweats. These states have yielded to appropriate treatment, whilst the medical man has believed they were consumptive cases.

But in the coming on of consumption, Dr. S. says, there is one great, and never-to-be mistaken symptom, *the state of the pulse*, which too often escapes observation; but reveals more than does the cough, the loss of strength, the emaciation of the body. This he looks on as the pathognomic symptom which is peculiar to pulmonary affections. He is surprised that it is so often unheeded, and that many of the best writers merely mention its quickness; and that writers who may in future be ranked among the classic medical authorities, devote so little attention to a diagnostic of so much value. One, that to his mind is of not less importance than the signs afforded by auscultation or by percussion. That there are many shades of distinction in pulsation which can be perceived by but few, Dr. S. readily admits, but he thinks that the principal obstacle we have to en-

* But this has been from a common phlegmon, terminating in abscess and not from tubercles.

counter is the conveying to others the sensations excited in our own minds.

The indication of consumptive tendency, by the pulse, is much more easily *recognised* than it is *explained* to another; a remark which he has occasionally heard from other experienced physicians. He thinks that the peculiar rapidity of the circulation exhibited in the pulse, indicates an extraordinary state of irritability of the living fibre—not that which is attendant upon fever, having neither the strength, nor the hardness of the inflammatory; nor the weakness nor smallness which belongs to low fever; in both of which cases, there may be increased celerity of the pulse. There is *tension*, but it is not the *whipcord feel* of inflammation—there is a *vibration*, but it is essentially distinct from that which betokens disease of the heart; it is extraordinarily dependant upon mental emotion, and its rapidity is excited by moral causes in a most surprising and unaccountable manner.

Here is plainly set forth Dr. Sigmond's early diagnosis by the pulse; experience of fact must make up the deficiencies of his verbal description. There is no state of incipient consumption, says Dr. S., in which digitalis, properly administered, is of such infinite importance as when this disease first arrests our suspicion, as being likely to occur in the young female, in whom, at the age of puberty, nature exerts herself with unerring precision, for the developement of that system upon which the increase of our species depends. These efforts of nature are almost invariably successful, and the greater number of females are, after a short interval, prepared to fulfil the destiny for which, as a sex, they were ordained. It is at this moment, however fair may be the external form, that that form is most fragile. Nothing can be more exquisite in nature's works, than that which she has taught us most to admire and esteem—a woman, in the full possession of her bodily attraction and her mental charms.*

Thus indeed is the young female presented to us in the plenitude of her peculiar charms, marked by the cessation of developments in some parts of their continuance in others; but these again, in turn, having accomplished the wise and beautiful outline enstamped on the sex by creative wisdom, must cease. But a *surplussage*, wisely supplied for the development and sustenance of the offspring, still arises, and woman must menstruate for about thirty years of her life, when this is not vicariously answered; or change, as Cuvier says, from that perfection which renders her at once, a being the most enchanting, to a

* Here Dr. S. refers to his revered preceptor Dr. Gregory, who in his "*Conspectus Medicinæ Theoreticæ*," he says, has given, in classic language, which Cicero or Tacitus would have admired, probably one of the most enchanting delineations that ever was drawn, of the charm of female perfections. We think it fully equalled by one of pretty similar import by Cuvier.

loathsome, putrid mass, and undergoing chemical changes, become assimilated with the dust of the earth. It is indeed a law of her nature, that she must menstruate from puberty to forty-five or fifty, unless breeding or lactating; or suffer the ravages of most distressing or destructive disease: and the reason of her peculiar liability to certain diseases, is that this surplussage, wisely provided in the proportions of her economy for the perpetuation of the species becomes, when disposed of otherwise in the system, an extraneous, exciting and injurious non-natural—a proper cause of morbid changes and phenomena. She is, thus in her perfections, in the full exhuberance of susceptibilities—ready for the strong excitements of suitable means. Every thing, as Dr. S. states, proves that her circulation is in a state of easy accelleration. In an instant the heart quickens with an unnatural throb, the cheek is suffused with the crimson blush of modesty, the whole face flushed, the mind, like the body, in an electric state, every chord is tremblingly alive to the touch—its tension irresistibly strong; every vibration is conveyed along the whole frame, the pulse quickly shews the mental emotion; the eyes radiate the light of love, or sparkle with the illumination of genius, or beam with the fondest and truest affection*—

*Dr. S. has indeed adopted the ideas, and almost the identical words of Cuvier, in this description.

The following are Cuvier's words:

"Examinons, par exemple, le corps d'une femme dans l'état de jeunesse et de santé: ces formes arrondies et voluptueuses, cette souplesse gracieuse de mouvemens, cette douce chaleur, ces joues teintes des roses de la volupté, ces yeux brillans de l'étincelle de l'amour ou de feu du génie; cette physionomie égayée par les saillies de l'esprit, ou animée par le feu des passions; tout semble se réunir pour en faire un être enchanteur. Un instant suffit pour détruire ces prestige: souvent sans aucune cause apparente le mouvement et le sentiment viennent à cesser; le corps perd sa chaleur; les muscles s'affaissent et laissent paraître les saillies anguleuses des os; les yeux deviennent ternes, les joues et les lèvres livides. Ce ne sont là que les préludes de changemens plus horribles: les chairs passent au bleu, au verd, au noir; elles attirent l'humidité; et pendant qu'une portion s'évapore en émanations infectes, une autre s'écoule en une sanie putride, qui ne tarde pas à se dissiper aussi: en un mot, au bout d'un petit nombre de jours, il ne reste plus que quelques principes terreux ou salins; les autres élémens se sont disperés dans les airs et dans les eaux pour entrer dans de nouvelles combinaisons."—*Leçons d' Anatomie Comparée, de G. Cuvier. Tom.* 1. *re. p.* 2.

The following is a liberal translation of the above paragraph:

"Let us examine, for example, the person of a female in the state of youth and health, that form round and delightful, that graceful suppleness of movement, that genial warmth, those cheeks tinted with the roses of pleasure, those brilliant eyes sparkling with love or the fire of genius, that expression enlivened by sallies of wit, or animated by the fire of the passions; all seem to unite to render her an enchanting being. An instant suffices to destroy the fond illusion: often, without apparent cause, motion and feeling cease; the body loses its genial warmth, the muscles shrink, leaving the bones to appear in angular projections; the eyes lose their lustre, the cheeks and

there is gentle warmth, and all that can betoken the highest health, gives hope and expectation of joy and life. There is now a great determination to the thorax, but more particularly, externally, to the glands which are destined for the future secretion of nutrition for the offspring; they are fully charged with blood from which the milky fluid is to be secreted.* Exposure to cold is at once, says Dr. S. sufficient to determine the blood to the internal membranes—hence are young women peculiarly subject, from dress and other exposure, to inflammation of the thoracic contents; but these inflammations yield to external counter-irritants, such as blisters, more easily than they do in men. These frequent light colds, call into action any predisposition to disease of the lungs which may exist; and where, at *first*, the membranes only were diseased, the lungs become solid, ulcerated, or changed in their structure.

There is so much good sense, and so close and legitimate a connexion of cause and effect, and all so true, in the following observations of Dr. Sigmond, leading to the use of digitalis in these cases, that we feel bound to extract his own words, which perhaps, we had better commenced earlier.

Every thing tends, at this eventful moment of life, to increase the circulation; yet there seems a wonderful adaptation of means to carry it on without endangering the functions of the various organs; congestions do not occur, but the tendency is to fill every minute capillary vessel, which again quickly unloads itself. It is not only the arterial system that is thus replete, but the venous system partakes of the fulness: you observe the white coat of the eye sometimes exhibit a most beautiful hue, there is an exquisite tint of blue which gives to the pearly membrane a shade that has something of heaven in it, something so supernatural, that Byron's line, "that eye was in itself a soul," appears not only poetic but descriptive; this depends upon the minutest venous channels of this coat being charged with the blue-colored blood which circulates in the venous system. At no other period of life is this visible. Sometimes the heart labors with the fluid that is transmitted through it, the slightest exertion produces palpitation, and you will find young females constantly liable to this state, which has been mistaken for organic disease. Indeed, I myself have known instances where the adroit stethescopist has pronounced an affection of the heart where there was only this state peculiar to the age and sex. You

lips become livid. These are but the prelude to changes more horrible.—The flesh passes to blue, green, black It attracts humidity; and whilst one portion exhales in infectious emanations, another runs into putrid sanies which soon also is dissipated. Finally, after a few days, there remains nothing but a few earthy and saline principles; the other elements are dissipated in the air and water, to enter into new combinations."

* In this state of things, who is so blind as not to see at first glance, the danger of that compression of these organs, which modern fashionable dressing is calculated to afford—who does not see that blood determined to these parts for their proper developement must, if repelled by compression, work injurious effects in other parts already developed to the fullness of their purposes; and peculiarly the lungs.

will hear it often remarked, that females have lived for years after it has been formally announced that there is organic alteration of this great centre of life. In such cases small quantities of the tincture of digitalis only occasionally exhibited, beginning with five drops, will act most beneficially, and, if combined with an equal quantity of tincture of opium, will, in those high states of nervous excitement to which young ladies are sometimes subject, prove much more useful than the aromatic spirits of ammonia, the camphor, the hartshorn, which momentarily stimulate. This is a useful combination on very particular and urgent occasions, but it is by no means to be frequently had recourse to; it is only when necessity demands it that digitalis is to be used. In consequence of the accelleration through the lungs, the minutest vessel becomes full of blood; each capillary is surcharged; not only the pulmonary vessels are in this state, but the investing pleura is absolutely injected with fluid; still there is not inflammation unless some exciting cause occurs; if cold constricts the extreme ends of the vessels, this takes place, and the thoughtless imprudence of youth too often exposes the delicate system to the dangers that are consequent upon it. A cold, variable climate should at this time be avoided, and the diet must not be too stimulating; every thing that can carry off the accumulated irritability of the system must be administered. It is to be remembered, that in the majority of cases phthisis does not occur, as many writers (very judicious on other points,) have stated, when puberty arrives, and the system is to be placed in its new state, but it is after that time, for nature is generally successful in the accomplishment of the change, however much it may be retarded, and if she be not, the disease that is produced is not wasting of the lungs, but of the body generally. In the state to which I have drawn your attention, there has been demanded another channel to carry off the nutrition in which some precocious individuals is prepared at a very early period, and all their functions are carried on with a vigor which is too great for their feeble habits. Should the proper circumstances not arise, and consumption not occur, various other morbid conditions quickly present themselves.

The uterine system first betrays the constitutional disturbance, by headache, pain in the loins and back, heat of skin, quick hard pulse, sometimes great tenderness of the abdomen, which would almost indicate the necessity of abstraction of blood, but for which the tincture of digitalis, combined with opium or with tincture of iron, according to circumstances, will be most efficacious. Medical interference, in all these cases, must be most carefully limited, for upon judgment must depend the future happiness of some of the most interesting subjects of our skill. How often do we see disorders of that period yield spontaneously. In some cases you will find young females at this eventful period of their existence, complain of the most severe suffering in the very lower region of the back; this is mistaken, probably, for disease of the spine; the unfortunate victim is sometimes condemned for months to a reclining posture; is tortured in every way that honest but mistaken zeal and ingenuity can suggest; and, to use the favorite expression, "every thing has been tried," when probably, to the astonishment of the uninitiated, some emotion of the mind kindles a new train of thought; she awakes, as from a slumber and from a dream of harrassment, and in the figurative but descriptive language of the case, "She takes up her bed and walks." As the young lady has probably had the advice of "all the first men in London," who, knowing the real state and cause, have not been able to effect a cure, but, most probably, have told, in as delicate a manner as possible, the truth, she has had, as her last doctor, some shrewd, bold man, well acquainted with the world, who has, whilst his pockets have been lined with fees, led on her friends, by exciting their hopes, and making their credulity subservient to his views. The case is related as a wonder, and the *natural result* proclaimed to be a great *cure* performed by a marvellous learned man. It

is the frequent result of our present state of society, that many females must be disappointed, and incapable of fulfilling the general destiny, and that to some it must be pregnant with mischief; it is for you, as philosophers and consolers of the human race, to obviate, as far as you can, the unavoidable sorrow that may grow out of it to individuals. We cannot, from any unfortunate examples, conclude that our moral system is bad; I believe it to be the best for our social condition; for "when the women are chaste the men will be brave."

I would have you, whenever the care of families is committed to you, regard each member of it as your personal friend, and though you may be liable to the caprices of individuals, you will eventually gain esteem and regard. I think you should look with parental solicitude to your youthful patients at the time of which I have spoken; remember there is a general susceptibility to extraordinary vascular action, but not to inflammation; there is an unwonted but not altogether unnatural condition of the blood-vessels, which is necessary for the performance of peculiar functions. You may arrest undue action by digitalis, administered occasionally in the form of tincture, but it is not to be persevered in, and long intervals are to be allowed to pass between each period of prescribing it. When the duration of what was supposed to be a slight cold is longer than ordinary, when the cough appears to be aggravated on going to bed, when the pulse is at different times in the day more than usual quick, when a slight difficulty of breathing is perceptible in a horizontal position, when the heart beats violently on going up or down stairs, and we observe the individual to be of a delicate habit, and under twenty years of age, we must watch with great tenderness and anxiety, lest symytoms of a more aggravated character supervene, nor is it then too early to give from ten to fifteen drops of the tincture of digitalis, three times a day for three successive days, and then to wait, or gradually to diminish the dose; if there be chlororic symptoms in the female, for they not unfrequently are developed at the same time, the tincture of the muriate of iron, now called tinctura ferri sesqui chloridi, may be administered, or the mistura ferri composita; these preparations will have their efficacy much improved by the digitalis, and their doses should be smaller in proportion. Indeed, the tincture of iron is more serviceable in small doses largely diluted in water, than in large doses in a small quantity of fluid; this rule holds good in many of the salts, which have their powers very much increased by their being held in solution in much larger quantities of fluid than in this country we are in the habit of prescribing.

Digitalis should often be discontinued, sometimes at once, at others by degrees, and then again had recourse to; but even the very gradual increase of the dose is most cautiously to be watched: if giddiness, pain in the head, throbbing at the forehead, or in the orbits; if there be unwonted vision, such as ocular spectra, a cloud interposing between objects usually clear; if small spots appear to be waving in the air, if nausea be present, it must immediately be abandoned, and may again be tried; but if your patient complains "of a faintness or sickness at the stomach as if their life was going from them," an expression which, even at the time of Dr. Maclean, was observed to be the most striking effect, when an individual is under its full influence, and almost all complain of it nearly in the same way, you must give up the remedy. On some individuals it acts as a soporific; it disturbs the intellectual faculties, and scarcely any person whilst under its influence, is capable of going through the ordinary routine of occupation. Some stomachs are very much alive to it, and twenty drops will produce nausea, a larger quantity will cause an inclination to syncope, and this is sometimes one of its most distressing effects, the swooning continuing long, and being often repeated, the languor too is very overpowering, whilst cold clammy sweats burst forth.

The urinary secretion often exhibits some very striking changes under the administration of digitalis. When it has been very high colored, has had a thick deposit, and has been scanty in quantity, it has obtained a more natural colour and consistency, and has been increased in quantity. Some men, bolder than others, have continued its use, even when vomiting has taken place, and they think that the viscid mucus that has been thrown up, has relieved the chest, but surely under such an impression the milder emetics should be preferred. The effect upon the appetite in the intervals of nausea is sometimes very remarkable; the desire and craving for food, when there was previously distaste, are very striking.

The circumstance to which your attention is more particularly to be directed, is the agency of the remedy upon the pulse. You will most generally find two results, either a marked reduction in its frequency, or, on the other hand, an extreme irregularity. Instead of a quick, irritable pulse, betokening the state of excitement of the vascular system, there will speedily be produced a slow, steady, uniform pulsation, occasionally it will seem to be fuller than before, but the slightest bodily movement will counteract its influence, and, in most instances, very little exercise will accelerate it. If it fall below the standard of fifty beats in the minute, you will most generally find that the head and the stomach exhibit some signs of distress, but this is much more observable in phthisis than in dropsy, in which latter disease the excitability of the whole system is very much less. If irregularity of pulse be the *sequela*, it is marked by a few pulsations being performed with exceeding rapidity, and then a return to the previous condition and rhythm; but, occasionally, a complete stroke is intermitted. In asthmatic affections, in dyspnœa, it is very serviceable, whether they be dependant upon chronic or active affections of the lungs; but it will not control or cure the disease effectually, and, in most states of disease in those organs, it will alleviate the most formidable symptoms, and aid in prolonging life, and in rendering the last hours of life more endurable.

Use of Digitalis in the affections of the Uterine System, which usher in and accompany Phthisis. Dr. Sigmond considers digitalis highly useful in these affections, and, indeed, its influence upon the periodical evacuation, renders it a most valuable emmenagogue when properly employed, namely, in those states which are marked by acceleration of the pulse, and a morbid tension of the vascular system. It is observed, that most of the young females who go out to India, although they have been remarkably healthy with respect to the periodic evacuation, rarely, if ever, perform that function more than once during the whole of the voyage, however long it may be protracted; and on their arrival they generally have to encounter a train of morbid sensations consequent upon the effort of nature to resume her wonted condition. Most of the symptoms would be considered inflammatory; but it is merely constitutional excitement, the result of the disturbance the system has undergone, and the energies which the vis medicatrix naturæ is exerting to recover her lost balance. In such a state, digitalis is to be employed. If undue bleeding take place, it only protracts, to a very late period, the re-establishment of the menstruation, and there is a severe struggle, marked by a morbid condition of the membrane lining the uterus; and there is sometimes formed a false, or adventitious membrane, which is with great difficulty detached and dislodged, occasioning very considerable pain; besides which, so long as it remains within the womb, it forms a mechanical obstruction, irritating its vessels and its mouth. This membrane is large enough to cover the top of the finger, and corresponds in shape with the fundus uteri.

On the Treatment of Ophthalmia in general. We shall at present endeavor to establish some therapeutic laws which may find their application in the greater part of these diseases.

The treatment of ophthalmia is that of inflammation in general; being subject to variations according to the seat, the degree, the character of the inflammation, its tendency to a certain termination, and the causes which may give rise to it.

Among the causes there are some which it is necessary to remove before directly attacking the inflammation, and there are others which may be attacked with success only at the decline and sometimes during the convalescence from the ophthalmia.

Among the first, are foreign bodies which have fallen between the eyelids, whether moveable between these and the anterior surface of the globe, or fixed in the external membranes; which should be immediately removed.—It may happen that the eyelashes are turned towards the globe of the eye, and then it is indispensable that they should be either rectified or extracted. When there is only an accidental inversion, as sometimes takes place from rubbing the lids, they shou'd be replaced. But it is necessary that they should be extracted if their deviation is the result of a disease of the border of the eyelids, as is the case in trichiasis.

We may refer to the first of these classes of causes, the too strong or long-continued action of the solar or artificial light; this it is necessary to modify, for one cannot with impunity withdraw the patient entirely from its influence. Also the excessive fatigue of the eyes, to which we may oppose an absolute rest to this organ. Among the second class, we may rank all the internal causes, such as lymphatic constitution, scrofulous affections, ancient rheumatisms, syphilitic diseases or others, which should be opposed by specific therapeutic agents, which cannot always be used without inconvenience during the inflammatory period.

Without entering too minutely into detail concerning the symptoms, we shall consider the two most important and prominent anatomical characters —characters which of themselves fix the antiphlogistic treatment, and thus become the source of the division of the inflammations into two principal classes, and furnish the two indications to which we should attach the greatest importance in the treatment of inflammatory affections. These two anatomical characters are—

1st. Local congestion, that is to say, the permanent and two abundant flow of blood into the diseased organ.

2nd. The increase of plasticity of the blood and its tendency to decompose itself during life into its constituent parts, and to produce fibro-albuminous exudations, which become organized into false membranes.

According as the one or the other of these characters predominates in the inflammations, we may divide them in a therapeutic point of view in two classes, characterised by particular forms, and requiring different treatment.

1st. Inflammation with predominance of congestion.

2nd. Inflammation with predominance of the increased plasticity of the blood.

Another group might be formed of those inflammations which exhibit an almost uniform developement of these two phenomena.

If we take into consideration these two principal characters, the antiphlogistic may be divided into two groups:

1. Means directed against congestion.
2. Means directed against the increased plasticity of the blood.

Anti-Congestive Means.

Sanguineous congestion consists not only in local plethora, but also in the morbid direction of the blood towards the diseased organ, where it is incessantly attracted by the inflammatory irritation. Hence the necessity of taking from the diseased organ or the general system the superfluous blood, in order to diminish the too violent action of the arterial system caused by

local irritation (depletion,) or of driving back from the organ affected the morbid current (repulsion,) or of directing it more or less actively towards the healthy parts and towards the surface (derivation.)

Repulsion is suited to the least considerable degree of inflammation; to that which resembles rather the simple congestion; but only when it is situated in the external parts of the organ. In most cases of conjunctivitis, repulsion employed in good season puts an end to the disease. Cold water, a means which one can procure so easily, is the best, the most energetic, and the most sure of repulsives, when used in a continuous manner. But there are many inflammations whose nature is averse to cold—such is the catarrhal ophthalmia, for example. In these cases, the astringents of every nature, but principally the astringent mineral solutions, which we may employ lukewarm, or at the ordinary temperature of the atmosphere, fulfil the indications. The less the inflammation is, the more it approaches to the nature of a simple congestion, and the more also is it allowable to increase the strength of the collyrium. In the more considerable degrees of inflammation, we may make use of a simple solution of the acetate of lead, an astringent, the anti-phlogistic powers of which are well known.

Depletion may be immediate or derivative, that is to say, it may be practised near to the diseased organ or at a distance from it. If the former has the advantage of relieving more quickly the inflamed part, by causing the irritation, the pain and the compression to cease rapidly, a relief to which the patients are sufficiently sensible, the second also fulfils the very important indication of giving another direction to the morbid flow of blood.

In order to obtain the united effect of these two depletive methods, it is well to employ them, in severe ophthalmias, either simultaneously or alternately being made to succeed each other at very short intervals. In children, general bleedings are rarely indicated; it is nevertheless possible that we may be forced to have recourse to them. In adults we may often shorten considerably the duration of the ophthalmia, and may decidedly diminish the danger in cases of a great degree of intensity, by causing the local bleeding to be preceded by a general bleeding of from 8 to 16 ounces, to be repeated in 24 hours if the symptoms do not lose their intensity. In some cases it is necessary that the bleeding should be carried to syncope. Arteriotomy, bleeding from the jugular vein, and that from the nasal vein, do not appear to possess any peculiar advantages, and they often require the considerable inconvenience of compression in the neighborhood of the diseased organ, which restrains the venous circulation and increases the inflammation. Bleeding from the arm as simply depletive, and that from the foot as revulsive, have in our practice always proved sufficient. They may be used alternately in order to unite their advantages. The best local bleeding consists in the application of leeches over the mastoid process, to the temple, or in front of the ear. If placed too near the eyelids they often produce, in consequence of the looseness of the cellular tissue of the part, an erysipelatous œdema with great swelling of the lids; and sometimes ecchymoses, which frighten without relieving the patient, and prevent the physician, for a certain time, from examining the state of the eye. The same inconvenience results from applying the leeches upon the internal surface of the eyelids. Here, the limited space permits only a small number to be applied, so that the depletion is less considerable than the inflammation caused by the bites. This last reason, founded upon a long experience, has led us to employ always a larger number of leeches in the case of direct local depletion than when they are used as derivative; indeed, in the latter case, we draw advantage even from the irritation of the skin caused by the leeches, while in the former case this irritation is an entire loss, and adds often, at least temporarily, to the intensity of the inflammation.

Derivative bleedings may be found useful either after the local bleedings, or when a suppression of any habitual evacuation, as of the menses, or an

hemorrhoidal flux or of an epistaxis, furnishes a special indication. It is in this case that the application of ten or fifteen leeches to the anus or the genitals, cupping upon the back, the loins or the lower extremities, may find their application.

The derivative effect produced by bleeding is powerfully aided by certain means of irritation, which attract the blood towards the circumference and thus turn it from the diseased organ. Of this character are the foot-bath, with mustard sinapisms to the extremities, and the application of the emplast. resinos. cantharid. to the back or between the shoulders, for the purpose of producing a temporary rubefaction of the skin. In proportion as these derivative means of a transitory action are useful, and serve to aid the direct effects of depletion and repulsion, by so much, the more energetic agents which give rise to a vesication of the skin, or which keep up for a long time a puriform secretion in the neighborhood of the inflamed organ, appear to us injurious, and rather adapted to add a new irritation than to releve the primitive inflammation. In the course of our experience we have rarely witnessed any salutary effects result from these violent remedies in the active periods of ocular inflammations. We believe that they possess a marked advantage only in the inflammations of the mucous textures accompanied by an abundant puriform secretion ; for example, in the blenorrhagic ophthalmia. It is still necessary, even in these cases, that the severity of the inflammation should have been modified by the previous employment of bleeding and repellents. But we are far from wishing to depreciate the value of these agents, used when the severity of the disease begins to diminish, or when it is desired to prevent a relapse in a rebellious inflammation. In most cases the application of a blister, or frictions with tartar emetic ointment composed of a drachm of tartarized antimony and two drachms of lard, is sufficient, towards the decline of the inflammation, to produce rapid amelioration and give to the disease a more decided progress towards a happy termination. It is only in a very few cases which are very complicated, chronic and obstinate, that there is any necessity for having recourse to moxas, to issues and setons. Blisters and the tartar emetic ointment have the advantage of exciting an irritation which we can readily arrest without danger, and afterwards reproduce with renewed activity, whilst the more profound irritants, as setons, &c. are with difficulty removed and soon become an habitual, useless and injurious secretion—useless, because, accompanied with a very feeble irritation, it has not the power of displacing an irritation of a morbid and secretive character—injurious, because it constitutes an artificial and additional morbid condition, of which the patient may not be able to rid himself without great precaution, and sometimes not without serious consequences.

Purgatives act in various ways, as depletive, derivative or antiplastic agents. We speak of them in this place because they form a kind of introduction to the means which belong to the second class of therapeutic indications relative to inflammatory affections.

Purgatives, by inducing an abundant secretion from the intestinal canal, give rise to the evacuation of a large quantity of serous and fibro-albuminous matter. This kind of evacuation is not less important than sanguine emissions, especially when the ocular inflammation attacks very young subjects in whom the serous and fibro albuminous parts predominate. Purgatives are still very important when a peculiar morbid disposition, as scrofula, in the cause of the predominance of lymph in the constitution of the organic liquids.

If the advantages of depletion by the aid of purgatives are evident, it is not the less true that they do not offer the inconveniences which some have wished to attribute to them. The fear of their causing intestinal irritation is not founded upon experience. Unless some pathological condition of the intestinal surface pre-exist which forbids their use, they are well supported

by individuals of all ages. The increased secretion which they excite is itself the crisis of their first irritating impression upon the mucous membrane, and the surest security that this congestion is not transforming itself into a permanent or inflammatory irritation; thus the irritation is opposed and subdued by its own effects. The second effect of purgatives consists in the transferring the irritation of the mucous membrane of the eye to another very extensive portion of the mucous system. This powerful and favorable revulsion is equally useful in the inflammations of all the tissues of the eye.

By removing from the mass of the blood a large quantity of fibro-albuminous matter, purgatives contribute to diminish the plasticity of this fluid, and thus already fulfil in part the second indication.

Finally, they are also useful in these cases, by no means rare, in which the local inflammation is accompanied and often kept up by a gastric irritation. It is especially in practice among the poor that their employment is of great value and of extensive application, for the double reason of the bad quality of their food, which produces in every disease frequent complications of gastric embarrassment; and of the high price of leeches, for which, evacuants from the intestinal canal may often be substituted, chiefly in lymphatic constitutions. There are cases of conjunctivitis of a mild character in which a simple purgative alone fulfils the indication of depletion, and dissipates at once all the morbid phenomena.

The purgatives which we are in the habit of employing are, for adults, the neutral salts, as the sulphates of soda and magnesia. These, beside their purgative effect, appear to have a modifying influence upon the blood.—With children we use manna in a dose of one or two ounces, dissolved in water, or an infusion of senna with coffee, or an electuary of senna with prunes and cream of tartar or the syrup of rhubarb. If we desire a more drastic effect, we add scammony or jalap, in a dose of a scruple for adults and of half a scruple for children. Calomel may be given with jalap in a dose of from 4 to 12 grains.

Experience has taught us that we may obtain sufficient purgative effects with the tincture of the seeds of colchicum, given to children in a dose of from 4 to 12 drops, and to adults in that of from 15 to 20 drops four times a day. This remedy is doubly useful in practice among the poor, as its cost is trifling, and because its taste may be so easily disguised in some mucilaginous drink that children may be made to take it without difficulty.

Emetics, the action of which is similar to that of purgatives, are seldom required in inflammations of the eye. The depletion produced is less complete than that produced by purgatives. The efforts which precede and accompany the act of vomiting, have the disadvantage of causing a determination of blood towards the head, and of consequence towards the eyes.—Tartarized antimony in large doses, not as an emetic, but as a counter-stimulant, may be used in violent ophthalmia according to the same rules which have been fixed for its use in inflammations of the other organs.

There are certain cases of chronic ophthalmia, complicated with abdominal plethora or rheumatism, which are rapidly benefitted by the use of tartarized antimony or ipecac in nauseating doses.—*Boston Med. & Sur. Jour.*

Blood-letting.

On a former occasion,* we gave some of Dr. Hall's observations on this very important subject, with his table of *tolerance*, &c. But we consider Dr. Hall's investigations on this subject

* See Southern Medical and Surgical Journal, Vol. ii. p. 668.

as so important—as having brought this recourse of the physician from a course of haphazard use to a subserviency for true science; an improvement, more important than the introductions of weights and measures into pharmacy; that we feel that we cannot do our readers a greater service than to recall their attention to the subject, by the following extract from his lectures, through the Boston Medical and Surgical Journal.

Blood-letting is so important, so powerful a remedy, so replete with consequences, both good and evil, according as it is well or ill applied, and I have made, as I believe, such improvement in its mode of exhibition, that I propose to enter at great length upon this subject. Part of what I have to say, must be said now in connection with the subject of inflammation: but part must be reserved for another entire lecture on blood letting.

The great difficulty is to ascertain, when we have determined upon the institution of blood-letting, *how much* or *how little* blood shall be withdrawn. Where, where can you learn this? In what book—in what lectures? Shall we take ten, or fifteen, or twenty, or twenty-five, or thirty ounces of blood—or more? It may be said that, if the patient be young and robust, and if the disease be violent, we take much blood; but if the patient be feeble, and the disease slight, we take little. But *how* much? and *how* little? are still the questions—to which I know of no answer in medical writings or lectures.

Now it is precisely to determine these questions, which are questions of life and death, that I have a proposition to lay before you, of the utmost value in many, many points of view. The proposition applies to *every* case in which it is required to bleed the patient fully; that is, to the extent the system may bear and the disease require. It is full of safety, guiding us in the use of the lancet, and guarding us, at once, against excessive and inefficient blood-letting.

The plan I propose is this:—

Place the patient perfectly upright, in the sitting posture, and desire him to look towards the ceiling of the room; having previously prepared the arm, let the blood flow to the most incipient syncope.

If the patient be strong, and the inflammation be seated in the serous membranes, or parenchymatous substance of organs, and severe, *much* blood will flow; if the patient be feeble, and the inflammation be seated in the mucous membranes, and be moderate in extent and degree, *little* blood will flow; and not only this, but precisely as much and as little as the case requires, and the patient can safely bear to lose.

This is the plan, then, which I recommend you to adopt. Determine the first question—that the case requires the *full* detraction of blood, by the history, the symptoms, by the *diagnosis;* then adopt the mode of blood-letting which I have described, and all will be safe. You will often take *more*, and often *less*, than you would have done under the former system of *guessing*, but you will always take the proper quantity; you will not allow the disease to proceed, unchecked for want of the due use of the remedy; and you will not sink your patient by carrying it to excess.

But this is not all; for by the very quantity of blood which has been drawn, you will learn much relatively to the actual powers of the patient, and the degree and nature of the disease—much of a practical kind of diagnosis.

Nay, you will be much guided, in connection with the subsequent state of the patient, and by the previous duration of the actual symptoms of the disease, as to the *repetition* of the remedy—another most important point.

If *much* blood has flowed before incipient syncope has been induced, revisit your patient *soon*; you will probably have to repeat the blood-letting in consequence of the severity of the disease, especially if you were not called in early in the first instance. If, on the contrary, *little* blood has flowed,

neither does the disease require, nor would the patient bear, further general depletion. Is not this an interesting and important piece of information? And is it to be found in medical writings or lectures? No; for even now, many years since the rule was first suggested in my work on blood-letting, it remains, either from inattention or jealousy, neglected, and unapplied in practice except by a few. But you will appreciate it duly, you will adopt it in your future career of practice, and will, in many a case of an anxious nature, think of me with satisfaction, and, I trust, with some warmer feeling. I consider the rule for the administration of blood-letting, which I have laid before you, as the most important for conducting with safety the use of a powerful remedy in the whole range of the practice of medicine; and I deem myself happy in being its discoverer and promulgator. Would we had a similar rule and guide, in the use of *all* our plans of treatment, fraught, as they often are, with good or ill, according as they are applied with or without judgment and skill.

An Elementary Treatise on Midwifery, or Principles of Tokology and Embryology. By Alf. A. L. M. Velpeau, m. d. &c. Translated from the French, with notes. By Chas. D. Meigs, m. d., Member of the American Philosophical Society, Lecturer on Midwifery and the Diseases of Women and Children, &c. &c. Second American edition. Philadelphia. Grigg & Elliott, 9 North Fourth-street, 1838. pp. 592.

We have seen nothing from the author of the work now before us, but what declares its author to be a man of uncommon natural endowments and unusual zeal and industry in the literary as well as practical departments of his profession. Whenever there was room for progression in his subject he has gone foward. Never content to see error or ignorance in a science so important to humanity as his, when he has given a case or a report of facts of any kind, it has been to develope some new truth, remove the doubts which before obscured its beauty, or to drive from their lurking places some of those hideous errors which infest his professional curriculum. In the more fixed branches of the science of medicine, those which are made up of facts, as anatomy for example, where for much novelty, he would have to transcend the boundaries of nature's truth, he has of course not been able to do much more than set forth these truths in a fair light.

His Human Ovology is indeed a master-work of his day, containing every thing of merit which previous ages had produced in human and comparative anatomy and physiology, so far as it tended in the least to elucidate the truth; and also his own and other investigations of the present day, all abundantly and beautifully illustrated with costly engravings; and all combining to render the science of human ovology plain and abundantly interesting. We regret that this work has not been translated into English: an event which we fear we shall never be called

on to announce, on account of the unavoidable high cost of such a work with the necessary illustrations, and the limited demand for even a splendid work and one highly interesting to the naturalist; but of little practical utility.

But no man has made to the medical profession in America, a richer offering than Dr. Meigs has in the translation of Velpeau's midwifery. He has given us a work fraught with deep science—a work which systematizes in the most accurate and lucid manner, the truths known to the profession, and with a mind competent to the end, looks into many of the hitherto obscure and dark places, grapples with truth, and, victorious by the mighty agency of genius and science, reveals it to the naked eye. We will not say that it contains every thing necessary for that department; far from it. Volumes, and perhaps ages will yet be employed in its farther developement, but nothing extant can be considered as containing as great a sum of usefulness for the accoucheur; and this too most happily arranged for the easy acquisition of the reader.

The first American edition of this work has been long before the public. It was a large edition we understand; and the resistless demand for the work since the first American edition was exhausted, which has compelled a second edition, declares at once the value which is put on it by the profession here. We are pleased with the magnanimity of the proprietor of the American edition, which is displayed in the republication of this work which had before received his very full commendation, at the very moment when he had just placed himself before the public in the capacity of author of a treatise intended, no doubt, to occupy the same place. We have not had the pleasure of seeing the work of Dr. Meigs, but have noticed its announcement in the northern journals. If it be a work of merit, (and it can scarcely be otherwise, from an author so conversant with the writings of Velpeau, and so well stored with practical facts of his own as Dr. M.) we trust it will not suffer a want of patronage by the profession, in consequence of the disinterested conduct of the American translator of Velpeau's Midwifery. There is a great error common amongst medical men, which consists in their satisfying themselves with only one good treatise on an important subject, or with one medical periodical, &c. A man would be about as wise to content himself with one idea when he might have two, or a dozen to proportionate advantage.—Each medical practitioner or teacher should take every respectable medical journal or publication; at least so far as his means will allow; and it were better to economise in some other way than in preventing the streams of knowledge, when this is his only vehicle to fame and usefulness in a profession, over whose short-comings humanity ever weeps. The same principles apply to every one who dares to approach the bed of accouchement.

Nothing but absolute inability should induce him to deny himself any means of fullest knowledge. He should remember that he is laboring in a department wherein there is a *double responsibility*, and this too, for the safety of the most interesting part of our species—lovely woman, and her more lovely and innocent offspring.

The present edition is a decided improvement on the first, both in paper and typography. Dr. Meigs, the American editor, has, though "with the utmost deference for the author," added a few foot notes. to which he has affixed his initial. On page 35 we find the first of these notes. The author in treating on deformity of the pelvis from excess of amplitude, says :—

"During gestation, the womb being less completely supported, may be upset, either backwards or forwards, as long as its dimensions do not exceed the abdominal strait, and it may incline in any direction after the fourth month."

To this Dr. M. adds—

"I have seen a retroversion in a young virgin."

On page 54, Dr. M. in his note, considers the "hymen to be a fold, or duplicotion of the mucous lining of the *orificium vaginæ*. It is, he says, in all respects analagous to the valvulæ conniventes of the bowels. In many individuals it is ruptured by the sexual congress ; in others, it escapes uninjured, and is not unfrequently met with in the examinations made during the conduct of labors." He considers it so "tractile and distensible, that it is even possible for a child to be born without destroying it, as I have (he has) ascertained in my (his) attendance on persons confined with a second parturition. I make (he makes) this statement with confidence, as I am (he is) sure it will be confirmed by persons much engaged in obstetric practice, who will take the trouble to make the enquiry."

On page 71, M. Velpeau, in speaking of the ligaments of the uterus, and particularly of the round ligaments or sur-pubic cords, says,

"Being put on the stretch by the ascent of the womb, it is possible that they may, when the woman is on foot, and particularly when on her knees, occasion pretty smart pains in the groins and thighs." Dr. Meigs adds—

"It is very common for women laboring under prolapsus uteri to complain of pain and soreness in the regions traversed by these cords. I am accustomed to the prescription of leeches for these regions, in many cases of uterine disease—as I consider that blood taken from capillaries here, actually effects depletion of the vessels of the uterine circulation."

"Vicious conformations of the vagina are not less frequent than those of the womb. Its total absence is pretty common. M. M. Boyer, Caillot, Willaume, and an infinity of others have seen it terminate in a *cul de sac* above the vulva, and not open externally at all; in some cases its vulvar opening exists, but is obliterated above, and does not extend to the uterus.*

* Such a case as this we had under our care a few years since. The vulvar opening existed to the extent of one inch and a half, when it terminated in a cul de sac. The subject of it was a married lady about thirty years

All the students of the school of Paris may have seen a woman of this conformation a few months since in the wards of the Hotel Dieu. I have observed a similar disposition in a woman about thirty years of age, who had been delivered of a child five years previously, and had not had her menses since that period.—*Velpeau, p.* 79.

Here Dr. Meigs relates the following interesting and afflicting case.

I have now a patient under care, who is about nineteen years of age.—The external organs are well formed. The pudendem being well covered with hair, as in a healthy individual. Upon separating the labia, it is found that there is no vagina. A shallow *cul de sac* is all that exists at the bottom of the vulva. A style in the urethra and a finger in the rectum, enables me to know that no vagina is interposed between the rectum and the urethra. The uterus, or what is supposed to be the uterus, is so large as to occupy the whole excavation, and to be felt two inches above the brim of the pelvis by a hand externally applied. The patient has suffered for several years, from monthly attacks of the most violent pain, which is only to be mitigated by large anodyne doses. Hoping to find a portion of vagina attached to the cervix, Dr. Randolph, by means of horizontal strokes, effected an opening which was large enough to receive the thumb, and at least three and a half inches in depth—yet no vagina was discovered, nor could we learn where the cervix uteri was placed. This artificial vagina was kept dilated with a golden bougie, which at last was abandoned on account of the irritation it caused. The distress of the patient increased *pari passu* with the monthly growth of the pelvic tumour, which we supposed to be the womb filled with the menstrual blood and hermetically enclosed. As a last resort, it was determined to tap the womb, and accordingly Dr. Randolph, with great precautions, pushed the point of a curved trocar at least two and a half inches in a direction perpendicular to the surface of the tumor. No fluid followed the puncture. The patient had a slight fever afterwards, from which she recovered in a few days. Such is the lamentable situation of this young and estimable girl. The agonies she endures at each menstrual period are pitiable.

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of age. She had never menstruated, but asserted that she had considerable monthly distress as in retension. On examination and pressing firmly in the depth of this vulvar canal, we thought we perceived a firm substance, the size of the os tincæ, which easily receded from the pressure. Hoping that the termination of the cul de sac was caused by an imperforate and unusually dense hymen, we applied a short speculum, and made a crucial incision through a very dense white substance, about one-eighth of an inch thick-sufficiently large to admit the end of the index finger. Beyond this was a body of very loose cellular structure, which yielded very easily to the knife, and indeed to the finger which was passed about an inch beyond, at which distance, the hard body was still perceptible, about as plainly as before the incision; and still receded with like ease, from the touch. At this state of the investigation of the case, the patient became unable to bear its longer continuance and it was dressed with a plug of lint covered with simple cerate and fitting the new opening. Before the removal of this, we were confined to the sick bed, and the patient was left to herself; whereon she declined a renewal of the effort in her case and left the city. We have not since seen her, but understand she is alive. There was no tumour perceptible in the hypogastrium.—Editor.

For a case of atresia vaginæ in which the womb was tapped, a remarkably successful operation by Dr. Randolph, see the Phil. Prac. of Midwifery, by C. D. Meigs, p. 860. [*Meigs.*]

The next note by Dr. M. (p. 84) is one in which he declines translating the French terms given by M. Velpeau, by which the common people designate the menstrual flux, as "régles, lunes, mois, fleurs or flueurs, purgation, affaires and epoques." Here the editor gives the common English terms, as "menses, flowers, monthly discharge, show, regular discharge, monthlys, time," and the common allusion to it with a nod.

On page 103, M. Velpeau states that the weight of the whole ovum does not in general excede seven to ten pounds. Dr. M. states that a patient under his care gave birth to twins, one of which weighed in the scales eight and a half, and the other eight pounds; the placenta was at least one pound, the water ten ounces=eighteen pounds.

It should have been remarked that the average dimensions and weight of the child in Europe will not do to be taught in this country. Our average is decidedly greater.

M. Velpeau in speaking (p. 117) of sympathetic phenomena, and rational signs of pregnancy, says—

"The *neck* swells, becomes softer, and is the seat of a conjestion, which, according to Diogenes, was formerly indicated by Democritus, and which Catullus has mentioned in the following lines:—

Non, illam nutrix, oriente luce, revisens,
Hesterno collum, poterit circumdare filo;

a congestion which Dumas says he has positively observed. But Dr. M. thinks there is more poetry than truth in the lines of Catullus. "The feet, (he says,) become less swelled, and the neck and face more swelled by a night spent in the horizontal position, and the lines are as applicable to men as they are to women."

On page 142, two notes are added by the editor: the first is intended to define and adopt into English use the word "*viable*" in the original, without translation. This is a convenient word and has no equal in our language for the same purpose. It has been adopted by the force of its convenience and appropriateness long since. It expresses well, as Dr. M. remarks, "that state of developement in which the child *may* live, independent of its connexion with the mother."

The other note on the same page, is of important practical bearing; therefore we shall give it entire. It is appended to Velpeau's treatment of extra-uterine pregnancy.

"In as much as the diagnosis of extra-uterine pregnancy can in no case be absolutely clear and undeniable, the question of gastrotomy is one of the most difficult that can be presented to the surgeon. While the woman continues to enjoy even a moderate degree of health, I think few surgeons could be found, bold enough to recommend or effect the incisions requisite for the extraction of the fœtus; the more particularly, since the patient may, as in many examples has been shewn, continue to live for ten, twenty, and even fifty years, without great suffering or discomfort, and as she enjoys the

further prospect of getting rid of the difficulty by suppuration, and the other modes pointed out by Velpeau. A cæsarian operation would be far less dangerous than a gastrotomy for extra uterine pregnancy, because the contraction of the womb after delivery by the cæsarian section, obliterates the great danger of internal hemorrhage, a circumstance which cannot be predicated of the incisions into an accidental sac containing the extra uterine fœtus. For a very excellent paper on uterine pregnancy, see Dr. James' article in the North-American Medical and Surgical Journal, volume iv. page 275."—[*Meigs.*]

"In *uterine Tympanitis* the womb may acquire a considerable size, but it always remains very light, there is no *ballottement*, and percussion of the belly occasions such a resonance as at once dissipates all uncertainty."—[*Velpeau*, p. 144.]

Here Professor Velpeau is very positive—a manner which he is not wont to adopt, but on personal knowledge. Such a resonance is afforded by percussion "as at once dissipates *all uncertainty.*" Yet Dr. M. seizes this occasion to say that he "cannot admit the existence of uterine tympanitis as a disease proper"—asserting that it is not possible to retain air within the womb without the aid of a tampon of some sort. "There is no ground," says he, "to believe in the existence of such a malady." We have indeed never met with a case of uterine tympanitis, nor hydrops uteri, properly so called; but cases of the latter malady have been too often well attested, and demonstrated by the actual discharge of their contents, to admit a reasonable doubt of its possibility to exist. Now, with regard to the tympanitis alluded to, we perceive no natural impossibility of its existence, and the air making the tumefaction, promptly retained; more than the existence and retention of the fluid in the case of dropsy. As to the *origin* of the air, that is another matter; so is the origin of the fluid in dropsy. But we are not to disbelieve a fact which stands before us on authority which we have no right to impeach, merely because *we* do not understand by what philosophy its occurrence is brought about. If a crystal stream should gush forth in our presence from a rock in the mountain's top, we see it, allay our parching thirst with it, we cannot hesitate to acknowledge the certainty of the fact because we do not know a fountainhead to raise the water to the great height, according to hydraulic principles; or the force, and the manner of its application, whereby the rock was rent: or even if, contrary to the known laws of hydraulics, the water should rise to a height far above its level, we still cannot deny the fact, because we do not know by what strange influence the hitherto supposed laws of nature could be thus modified. Truths are insuperable things—not to be laid aside because we may not understand *why* they are so, but to be received on competent evidence of the fact and used in the practical or rational department. When therefore, such a man as Velpeau asserts, as he does, the actual facts of tympany of the uterus, we have as much reason to believe the fact, as we have the statements about dropsy, which all admit.

But we are induced to suppose, that Dr. M. has mistaken the matter, and concluded that the tympany of the uterus has been supposed to exist, from the occasional discharge of air from the vagina; a phenomenon almost universal with every woman laboring under prolapsus, after the proper replacement has been effected; for the uterus is never easily and effectually corrected after *descensus uteri*, without the admission of air into the vagina to occupy its place. Thus air is always found to regurgitate on the re-descent of the uterus, making an audible and most disagreeable sound.

M. Velpeau in treating on (p. 185) the vascular connexion of the uterus and placenta, acknowledges that he has "vainly sought for these *utero-placental* vessels in a great number of subjects," and is convinced, by the condition of the parts that, if they sometimes exist, they are far more frequently wanting.—He says, that whenever he has examined the ovum in the uterus after the third month, its surface, as well as that of the womb was smooth throughout its whole extent, and that not a single vessels served to maintain the connexion between those two parts. He concludes, however, that it is yet fairly a subject for investigation, and consequently of uncertainty, as evinced by the following questions; "might not the learned authors whom I have mentioned, (Dubois, Biancini, Reuss and Albinus.) have been deceived by some anomaly, some pathological state, or some false appearances? Could I have been mistaken myself? Time and additional facts alone can resolve the question," &c. Dr. M. here gives his testimony to the same point. He has carefully examined the separation of the ovum from the womb at full term and could never see the smallest vessel passing from one to the other; and does not believe there is any utero-placental connexion appreciable by the senses.

On this subject, one fact is clear; it is that the maternal blood does pass into the fœtus in the latter months of gestation. The facts of pregnancy, gestation, character and circumstances of the fœtus settle this point. Nor may ornithological ovology be brought to operate against this truth; for the analogy only holds tolerably good before the umbilical cord is perforate throughout, and whilst the alantoïde and umbilical vesicles continue to afford nourishment. For whilst the young fowl breaks its enclosure and comes forth to independent life, after its vesicular nutrition is exhausted, the human fœtus continues to grow from a few ounces to many pounds weight, the very ratio of which increase proves that a new source of nourishment pours forth its contributions. If then, the maternal blood actually passes into the offspring, the enquiry is forced on the mind, through what medium does it come? For it must not come by irregular sluices, but most gradually at first, and with great regularity and in an increasing ratio subsequently. This can only be effected through the medi-

um of vessels; and even these must not be so arranged as to allow the direct impulse of the maternal heart on the now tender organization of the fœtus; for this would be a competent cause of death in the latter. In order then that the strong maternal pulsation may not destroy the offspring, *veinous imbibition* is instituted, whereby the blood is most gradually and softly poured into the fœtal circulation just before it enters the fœtal heart, where it is to become diffused in the general mass and equally distributed to every part. Such are the suggestions of reasoning from known effects to appropriate and proportionate causes. Now what have the anatomical investigations for the elucidation of this subject proved? That there is a vein placed exactly where, and of just such construction and arrangement as is demanded for use. This vein is perforate through its whole length from the time the vesicular nourishment is exhausted.—But where does it originate? In the cells of that organ (the placenta,) which is attached to the womb, and the office of which vein is, in part, to return this umbilical *arterial* blood into the circulation of the fœtus. But were this all, no farther developement would be effected after about the fourth month, as there is no effect without cause, present and competent to the effect. It follows that, if the fœtus continue to grow, it *must acquire additional* nourishment. But no other source of increment remains to the fœtus, but through the umbilical vein. As this arises in the placenta, it must imbibe its additional nourishment for increase, *there*. The final question then arises, how does this nourishment get there and from whence does it come? Many have not been able, notwithstanding their best use of injections, to detect the slightest vascularity between the uterus and placenta. Amongst them are included some of the best practitioners; but others, as Dubois and Biancini have, on the other hand declared that they have injected them; and Reuss given drawing of them, and Albinus and others observed them. The communication is however still demanded by the necessities of the case.

This brings us to a survey of the circumstances of the parts and the organization concerned, for ascertaining why investigators have arrived at such opposite results. Here we find in the gravid uterus many substances most wisely arranged, and so tender they are *deciduous*. The attachment of the fœtus to the placenta is tender and intended to be deciduous—so is the placenta itself with the membranes. And this appears to be the order of creative wisdom, in relation to reproduction; that all parts which are only temporarily necessary, should exist no longer than the necessity; and at the same time, so tender as to pass away without much resistance. Now, whatever communication does exist between the uterus and placenta, is of this kind. If, therefore, injections be thrown into this attachment, it

must be by a very delicate and experienced hand, so to fill them as to demonstrate, without rupturing them. This, however, has not generally been the consequenee of attempting injections, and the injection has been found in an irregular mass between the two parts. But others have, with better success so filled them as to display them. Is it not then altogether probable that the utero-placental vessels do exist; but are of such soft and delicate strueture as to be easily laeerated, and then shrink away and become unobservable? Whence comes the blood in cases of concealed hemorrhage, and indeed in all uterine hemorrhages? If it were from the fœtus, the mother could not feel the effects of its loss. But it not only comes from the part where the placenta adheres, but it sinks and exhausts the mother. It follows, therefore that the vessels of the mother do pour out blood from the womb, where the placenta is attaehed, in a manner in which they do not in other parts of the uterus. Now why do these vessels become so enlarged immediately at the placental attachment only? And what becomes of the unusually great quantity of blood thus transmitted to the inside of the uterus? Can any one suppose that these vessels come to the inner surface of the uterus and cease? Every thing proves the existence of vaseular communication between these parts—the necessity from the beginning, the effects produced, the visible strueture in connection, &c.

Effect declares cause, although that cause may not be detectable by the senses or the ingenuity of man. We have no right to conclude there is no atmospheric air, because it is not sensible to the eye or touch. But so far as the evidence of man is to be received, these vessels have been demonstrated by injection, illustrated by drawings and seen by many. One ascertained, *positive* fact, is of more value in the ascertainment of truth, than a thousand *negative* ones.

Of "four thousand children born at the Maternité at Paris in a given time, Madame Lachapelle never met with one weighing twelve pounds. Baudelocque, who had a case where the child weighed twelve pounds and three quarters, maintained that it is incredible that a larger one was ever seen. According to Chaussier, the weight of the child is frequently only five, four, and sometimes three, or only two and a half pounds."—(Velpeau, p. 201.) The incredible weights given by people out of the profession, and even many authors of the eighteenth century, M. Velpeau attributes (and, without doubt, very correctly,) to an undue estimate of the weights, without taking the trouble to weigh the child; and says, "in fact, a new-born child of eight or nine pounds is enormous."

"Nevertheless," says Dr. M. "I beg leave to affirm that new born children weighing ten pounds, are by no means rare in the United States. I have weighed many at eleven and a half, and

several at twelve pounds." And finally, he states that he weighed one child of thirteen and a half, the mother of which died, however, a few days after delivery.

We are able to confirm Dr. M.'s assertion, that "children of ten pounds are not uncommon in the United States"; although the usual weight is between seven and a half and ten, still we have met with many from eleven to thirteen, by actual weight on the day of birth. Several we have seen, over thirteen; and one of seventeen, but this was removed by embryotomy, after labor, which had commenced five days previous, but which had worn off, leaving the woman languid and exhausted, and insusceptible of a renewal of labor. This case was twelve miles from town, and amongst unenlightened people in the country—hence its neglect for so long a time. The child was delivered by the perforator, crotchet and blunt hook. Considerable brain and some blood was lost. The weight of all that was preserved was seventeen pounds. This weight was not owing to unusual cellular repletion, but its increased length was proportionate to its weight; and the measure was preserved a length of time; but keeping no case book at the time, it was not recorded and is forgotten. Contrary to expectation, the woman had a good getting-up. The opinion of the patient and her friends was that she had by several months transcended the usual period of nine months.

In a note to p. 208, Dr. M. corrects Velpeau's expression, that the fœtus is "*suspended*" by means of the umbilical cord. Dr. M. very properly considers the child is not *suspended*, because the cord almost always exceeds in length, the diameter of the uterine cavity at term, by many inches, and often by several feet. It is therefore only *connected* with its parent by the cord. We can assert, however, that there are cases of *suspension* by the cord; and indeed we have been once obliged to divide the cord before delivery could be effected: but the suspension is owing to the winding of the cord around some part of the child.

Our notice of this new edition of Velpeau's Midwifery, has been protracted greatly beyond our intention when we took it up. We regret that it is not consistent with our limits to continue to notice the substance of Dr. Meigs' notes throughout. These are interesting, and often of much practical utility. But we must conclude with the following note (on p. 214), referring our readers to the work itself for the balance, and believing that no practitioner who can form a due estimate of it, will think of contenting himself with any thing short of possessing a copy.

Appended to Velpeau's treatment of Abortion, is the following note by Dr. M.

"Dr. Physick told me that he was accustomed to order an anodyne enema every night at bed-time, for such of his patients as were prone to abortion. Fifty drops of laudanum and a wine-glass of flax-seed tea was thrown

into the rectum regularly at night, with a view to any too great tendency to uterine contraction. I have, in several instances, happily succeeded in conducting the woman to full term by this method of treatment—I have also sometimes found it to fail."

We now bring our notice of this work to a close, leaving its interesting pages with reluctance; but not without again renewing the high gratification we feel on the appearance of a new edition, with the annotations of the American editor. We hope the edition is a copious one.

The subject of abortion, at which we stop, is one of great interest, and one of which we feel impelled to say something more than barely to notice it briefly in passing over Velpeau's work; and more especially, when we find it left as it is by this justly celebrated accoucheur, whose acquirements may be considered as the sum of what is valuable in the profession. We will prepare a few remarks on the subject in a future number of this journal.

Part III.—MONTHLY PERISCOPE.

Southern Medical and Surgical Journal. We congratulate the medical profession of the south on the sustentation of this journal, so far that it has been enabled to enter on the third volume, of which this is the first monthly number. We are duly conscious of the many faults of the work. These have been unavoidable, from the want of editorial experience, and of leisure from other, and indispensable duties. But we trust that, notwithstanding it has not been brought up to that degree of merit it should possess, still we feel free to declare that it has been the means of disseminating amongst the profession much useful matter, which, without this medium, would never have been laid before southern physicians. We have ventured forth as pioneers, opened the way, to level the road, and threw up works for future passengers; and feel that it were better to have pressed through the undertaking in the best way we could, be that as it might, than to have retreated or stopped short. The way is now open—the brambles and sinks made passable, and the opportunity of increasing usefulness is before us.

We trust in the kindness of a liberal profession, to be excused by all parties in medicine for not having given our labors to the support of either party, or of any opinion, which may have been

the fashionable one of the day, which had not reason to maintain and establish its correctness. Our future course designed is the same as heretofore, so far as true philosophy in medicine is concerned. We are still disposed to give to *facts* their proper supremacy, and to deduce from the true nature of things as ascertained, inductive truth. We have endeavored to bring into operation, a perfect freedom of mind, unfettered by any partiality or prejudice, and ready to receive and pursue the indications of the facts of nature. We wish not to depend on our own resources for the entertainment and instruction of our readers; this could not long prove satisfactory or eminently useful, if at all, unsupported by that variety of materials which can only be obtained from the thoughts and experience of many. We hope, therefore, that in future, the abundant talent in the profession at the south, in the praise of which, our acquaintance justifies our speaking freely, will be brought into more active operation in the literary bearing of the profession, and that each will feel it both a privilege and a duty, to bring up to the sacrifice some time, and some labor, that others may be benefitted, the dignity and usefulness of the profession enhanced, and our common country honored.

We occupy an older country than our western and northwestern brethren, but our efforts in the cause of our favorite science does not half equal theirs. We ask then of the friends of medical science every where, but we urge those of the south particularly, because we are in their midst, and because of their shortcoming heretofore, to come forward with their contributions to the general weal. We wish not such communications as we shall be obliged to manufacture anew. We have not time, talent, nor disposition for this; but all facts of substantial utility, either in the practice or the philosophy of medicine, we and our readers will receive most gratefully; and by these alone can the honor and usefulness of the profession at the south be advanced.

Judicious, well written, brief reviews of new publications will be gratefully received from our readers and friends, as they would save us time, and assist us in doing more justice to this department than we can alone do: for we owe an apology to many friends at a distance for not having noticed their pamphlets, lectures, books, &c. which have been forwarded to us. We hope to do better in future, in this respect. EDITOR.

Operation for the Restoration of the Lower Lip.—A young man belonging to Warren, R.I. while on a whaling voyage, in the month of December last, being in an open boat, was struck by a whale in such a manner as to force an oar against his face with sufficient violence to carry away a portion of the anterior surface of the superior maxillary bone, and, worse still, the largest part of the under lip. In this unsightly and truly melancholy condition

he returned from the voyage. On presenting himself for advice to Dr. Lewis, of this city, he exhibited the following spectacle. Although the wound, in a measure, had healed, no liquid could be retained in the mouth without covering the void, formerly controlled by the under lip, with one hand, closely pressed against the uneven and exposed dental wall. Besides these formidable difficulties, in consequence of the rent made in the bones of the roof of the mouth, his articulation was imperfect. The salva, unless it was controlled by a handerchief, was constantly drivelling over the chin. Under these circumstances Dr. Lewis operated on Monday, the 21st June, with a view, primarily, of remedying the deformity. The process was essentially similar to the common operation for hare lip—the wound being dressed after the admirable method of Dr. Walker, of Charlestown, whose success in such cases is well known in this community. Fortunately, the wound healed by the first intention, and the patient, to his great gratification, is relieved from the manifold inconveniences to which he was subjected for the want of a lip. An artificial palate is to be made for him by Dr. Harwood, next week, which will undoubtedly enable him to converse again in his accustomed tone of voice.—*Boston Med. and Surg. Jour.*

Bandage for the Cure of Prolapsus Uteri.—Dr. Robert Thompson, of Columbus, Ohio, has invented an apparatus for the cure or palliation of *prolapsus uteri*, which we have not had an opportunity of testing, but which seems well in appearance; and, in his own practice, we are told, has answered every desirable end. It makes firm pressure around the pelvis, holds up the abdominal viscera, and supports the perinæum and vulva.—*Boston Journal from Western Med. Jour.*

We see in the above, nothing more nor less than the very claims preferred which attach to Hull's Utero-abdominal Supporter; unless indeed, Dr. Thompson's invention may be afforded for the use of patients on more moderate terms than Hull's; an article which, like his *patent* truss, has only been accessible by the patient at two, if not three times the worth of the work and materials employed in their manufacture. Practitioners should condemn, in the most unqualified terms, the custom of taking advantage of a protected right, to secure to themselves many times the value of their labor.

Such has been the enormous price of this article, which should not be worth more than two or three dollars at most, that at first the consumer could not obtain them at the second sale from the factory under fifteen dollars, a price entirely too high for enabling the practitioner or patient to experiment with an article of such doubtful efficacy; and consequently, practitioners have been obliged in many instances to receive back a second-hand supporter, because he could not extort from his patient such a price for an article which did not effect any useful end; and druggists, have already been obliged to dispose of them at cost and charges. But we have more serious objections to the supporter than even its price, which we shall embrace the earliest opportunity of laying before the public. We wish success to Dr. Thompson's bandage; but from the nature of things, we have no confidence whatever in its curative powers, and very

little indeed in its utility in preventing the onward progress of that disease, for which it is desired to be considered a remedy. Only a proper knowledge of the causes of the production and perpetuation of prolapsus uteri, and the real condition and powers of the parts concerned is necessary to assure the practitioner that it is no easy matter to produce a remedy by any application which may supersede the necessity for the frequent assistance of the practitioner or competent nurse. And when we hear practitioners speak about curing it generally by such means, we feel that we are only assured of their ignorance of the disease, or their superficial observations on the cases subjected to their treatment.

Superfœtation.—The fact of superfœtation, so long mooted by physiologists, may now be considered as no longer a matter of doubt. The facts reported within the last two or three years are, alone, sufficient to settle in the mind of every physiologist the truth of the possibility and even the occurrence of this phenomenon. It is not a little curious and amusing to contemplate the course of the mind of man relative to truths which are considered rare. The adoption of an opinion or a fact, which does not strike the mind forcibly at first with the impression of its truth, is sometimes as difficult, as finding the correct explanation of a conumdrum which is often allowed so to puzzle the mind as to render it entirely incapable of using the very answer, when given in so many words. It seems to search the world of ideas over to find something other than the truth; and this, seems to be barred out from the mind by a thousand possible or imaginable difficulties in the way of its reception; whilst at the same time the *same truth*, as to its unreasonableness or improbability is found demonstrated on every hand. It is the case with regard to many subjects in the different departments of medical science. Such has been the case with regard to the subject at the head of this paragraph. Cases after cases as well attested as we should desire for any truth, and on as good authority, have been in all ages detailed to the public, in which this has occurred in the human subject; and comparative anatomy, which we cultivate, and to which we resort for illustration and confirmation of human anatomy and physiology, abounds with this truth, as in many quadrupeds and fowls; and still the point thus established, instead of being received as truth, is turned aside by every flimsy possibility which the mind of man can array in opposition. Indeed it is not yet a well-established fact, that this is not a very *frequent* occurrence with our own species. Cases of twins, triplets, &c. may in many, if not in all instances consist of superfœtation; for it is not in the least, more convenient to conceive of two ova being impregnated simultaneous-

ly, than successively. Be this as it may, the truth of its occurrence in animal physiology is spread over a large portion of the face of nature. It is even found in the physiology of plants.—All reproductive nature illustrates this truth. The two following cases, one in the human species, and the other in a quadruped are given in the last *American Journal*, (*August* 1838,) *from the Revue Médicale, for March*, 1838.

Superfœtation in the human species.—Madame C——, the mother of several children, became pregnant in the month of June, 1837, and nothing remarkable occurred until the 20th of September, when, without any ascertainable cause, a slight discharge took place from the vagina, and continued for eight days, when it increased, and pains came on: Dr. P. was sent for, and on examining the clots of blood, found in them, first a fœtus of three months, without its annexes, and next, one entire ovum, on opening of which last, he found a fœtus of not more than five weeks. The secondaries of the first fœtus were discharged the following day.

This case was communicated by Dr. Pertus.

Superfœtation in the Goat. This case was communicated to Dr. Pertus by Dr. Berjaud. A goat received the caresses of a ram the beginning of December, 1836, and was supposed to have been fecundated. However, she continued to manifest desire for the male, and she was gratified in this desire fifteen days after the first connexion. From this moment the animal appeared satisfied, she began to increase in size, and about the beginning of May she brought forth two young ones, perfectly formed, but which soon perished, for the mother would not suckle them. Her abdomen continued large, and fifteen days subsequently, to the surprise of her keeper, she gave birth to three perfectly formed young, to which she shewed great eagerness to give her milk. These young lived three days. It may be well to remind the reader that the term of gestation in the goat is five months, and the number of their young generally two—never more than three.

On the use of Chloride of Lime in Wounds attended with much pain, by Dr. Chopin. In wounds produced by contusion, laceration, or by the explosion of gunpowder, where there is much pain, speedy and certain relief, says Dr. C., is produced by chloride of lime. That this relief is not the effect of cold or any other cause than the chloride in solution, the author is convinced by many experiments. Charpie, moistened with the same solution, has been also found a useful application in relieving crescences in the vagina. That such is frequently the case, Dr. C. is convinced from repeated examination. Excoriated breasts are most efficiently treated by the use of the same external application.—*Brit. and For. Med. Rev.*

Typhus Fever in London. It seems that a fever, unusually severe in the city of London, has become rather alarming on account of the number of medical gentlemen who have fallen victims to it. This had led some of the principal citizens to an opinion that they are harboring an infectious disease of unusual malignancy. Typhus fevers, in England, are never so manageable in their cities, as in the cities of this country:—*Bost. Med. Jour.*

MEDICAL INTELLIGENCE.

Medical College of Georgia.

The next course of lectures will commence in this institution, on the second Monday in November. This institution which has laboured so much to render the course of instruction more useful than it can possibly be otherwise, by affording more time and opportunity for improvement, has been obliged to conform to the usual custom of a short course. However desirable and important the object in view may have been, and cit. par., nothing less could have answered the same valuable purpose, it has been found impossible for one school, and especially one as new as this, to enforce such a regulation without the co-operation of the others. It has therefore reduced the period of its course to that of the other institutions.

The following is the organization of this College at present.

G. M. Newton, M. D. Professor of Anatomy.
Charles Davis, M. D. Professor of Chemistry and Pharmacy.
Joseph A. Eve, M. D. Professor of Therapeutics and Materia Medica.
L. A. Dugas, M. D. Professor of Physiology and Pathological Anatomy.
M. Antony, M. D. Professor of Obstetrics & Diseases of Women & Infants.
L. D. Ford, M. D. Professor of Institutes and Practice of Medicine.
Paul F. Eve, M. D. Professor of Principles and Practice of Surgery.

Professor Newton will discharge the duties of Demonstrator of Anatomy; by which the class will have free admission to all the demonstrations.

The employment of such talent as Dr. Newton in the demonstratorship is a rare feature in any College.

Another most interesting and important feature of this College is, that the distinguished Professor Dr. Charles Davis, and Professor Newton, devote their whole time to their professorships.

Introductory Lecture by Dr. Joseph A. Eve.

Medical College of the State of South-Carolina.

The following extract from the annual circular of this Southern Institution, gives a statement of it present organization :—

The Faculty of the Medical College of the State of South Carolina announce, that the annual session of the College will commence on the second Monday of November as usual. An Introductory Lecture will be given on that day at noon, and the regular course will be resumed on the following morning.

On Anatomy, by J. E. Holbrook, M. D.; On Surgery, by John Wagner, M. D,; On the Institutes and Practice of Physic, by S. Henry Dickson, M. D ; On Physiology, by James Moultrie, M. D.; On Obstetrics, by Thomas G. Prioleau, M. D.; On Chemistry, by C. U. Shepard, M. D.; On Materia Medica, by Henry R. Frost, M. D.; On Pathological Anatomy and Medical Jurisprudence, by E. Geddings, M. D.; Demonstrations of Anatomy, by F. Wurdeman, M. D.

Jefferson Medical School.

The professors of this school announce some changes in its organization and arrangements, which they consider essential. These are an independent character, under the title of Jefferson Medical College of Philadelphia, with an increase of its number of Trustees from ten to fifteen. The charter confers the same powers and restrictions as the University of Pennsylvania.

The regular course of lectures in this institution will begin on the first Monday in November. The following is its organization:

Professors—Surgery, George McClellan, M. D.; Chemistry, Jacob Green, M. D.; Materia Medica and Pharmacy, Samuel Colhoun, M. D.; Midwifery and Diseases of Women and Children, Samuel McClellan, M. D.; Anatomy, Granville Sharp Pattison, M. D.; Principles and Practice of Physic, John Revere, M. D.; Institutes of Medicine and Medical Jurisprudence, Robley Dunglison, M. D.; Samuel Colhoun, M. D.—Dean of the Medical Faculty.

Medical College of South-Carolina.

With the annual announcement of the professors of this institution, we have been presented with an extensive catalogue of the contents of its valuable museum.

The annual course of lectures in this institution will commence on the second Monday in November next. The following is its organization:—

Faculty—B. B. Strobel, M. D. Professor of Anatomy; Elias Horry Deas, M. D. Professor of Surgery; Thomas Y. Simons, M. D Professor of Theory and Practice of Medicine; Henry Alexander, M. D. Professor of Inst. of Medicine and Materia Medica; Wm. Hume, M. D, Professor of Chemistry and Pharmacy; Francis Y. Porcher. M. D. Professor of Obstetrics and Diseases of Women and Children; A. G. Mackey, M. D. Demonstrator of Anatomy.

Dean of the Faculty—Thomas Y. Simons, M. D.

Clinical Lecturers—At Alms House, A. G. Mackey, M. D—At. Marine Hospital, B. B. Strobel, M. D.

We regret that we have not yet received the annual circular of the other medical colleges for the ensuing season. It is with great pleasure that we witness the rising prosperity of the southern country in the increase of medical institutions. Every movement of the kind, if properly organized and regulated, cannot fail to enhance the character of the profession as well as its usefulness at the south, and generally.

One circumstance is peculiarly gratifying in this contemplation: it is that amongst these institutions there appears to be no disposition to lower the standard of professional merit.

Medical Prize Question.

The sum of one hundred dollars is offered by the Medical Society of the State of New York, for the best dissertation on "*The Diseases of the Spinal Column—their diagnosis, history and mode of treatment.*"

Communications are to be made to the Secretary of the Medical Society of the State of New York, on or before the first of January, 1839.

We regret that the notice of this which we have seen, has not given the address of the Secretary.

SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] NOVEMBER, 1838. [No. 2.

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

An Essay on the subject of maternal influence on the Fœtus in Utero. Read before the Medical Society of Augusta, by appointment. January, 1838. By M. ANTONY, M. D., Professor of Obstetrics, &c. in the Medical College of Georgia.

Question assigned by the Society,

"Can the mental or physical state of the female exercise any important influence over the fœtus in utero?"

When we attempt to look into the unsolved problems with which nature every where surrounds us, and when called on to determine the truths of nature in regard to matters, the premises or elements of which have not been fully arrayed before the mind by the facts of history or the researches of science, we know not whither to turn for imploring aid.

If we look to the thousand volumes which industry and learning have heaped around us, we find little more than a few solitary facts of observation, and the isolated, or abstract opinions of men—some truly in the course of honest research, but which, from partial data, must also be partial or imperfect. Others, which are themselves fair and legitimate deductions from the

premises reasoned from, but which (premises) are themselves not fair and true. But still, these opinions, coming from men of influence, pass in the crowd of truths by which they are accompanied, as legitimate deductions. Others again, and by far the most numerous, the sheer imaginings of men, which cannot bear the scrutiny of the first step of a rational investigation. And again, we find homogeneous conclusions drawn from heterogeneous facts which should have been assorted and arranged separately, in order that in the reasoning process, they might fairly have yielded, each its individual, or each class their own peculiar results.

Such is the situation of the enquiry presented to your essayist. The question as presented is duplex. It includes two propositions essentially different, and connected by a disjunctive, and this is their declaratory reading:—Can the mental state of the female exercise any important influence on the fœtus in utero; or can the physical state of the female exercise any important influence on the fœtus in utero? These, as cannot fail at first view to be perceived, involve physiological enquiries of extremely different natures. The last is one which, although it has been from time to time contested amongst medical philosophers, and even as late as the present century, may now be considered as settled beyond the reach of controversy.

Many are the facts in point, whereby this truth is rendered indisputable. Setting aside the most rational view of the healthy, uninterrupted operations of nature in the formation and perfect development of the offspring, a whole class of fœtal peculiarities or anomalies, are the indispensable results of the constitutional physical imperfections of the mother. Amongst these we may name very few out of many; such as the descent of small-pox, measles, syphilis, &c. &c. from the mother to the fœtus in utero. This truth is palpable; as the offspring is, prematurely, as well as at term, brought forth under the fully developed symptoms which characterize these morbid affections; whilst in other instances, children are born of mothers who have, during gestation, labored under those diseases which, prevailing once, destroy the susceptibility of them ever after; are found to be as exempt from them as those who have suffered them after birth with all possible regularity. These facts are received as unequivocal proof that the offspring had suffered and recovered

from those diseases, in utero; and consequently, by the "important (physical) influence" exercised by the mother on the fœtus in utero.

These are morbid phenomena. But there are others not less demonstrative of the truth of the proposition which these so substantially reveal; and which are found in the perfectly physiological condition of both parties. Amongst these we will name the peculiar conformation of the offspring to that of the mother in many instances—the colour of the skin, as of the white, with the East or West Indian, the Spaniard, or the African, &c. The unavoidable tendency of these facts is to establish the truth of the influence of the *physiological*, as well as the others did that of the *pathological* physical state of the mother.

But there is another class of influences; or we should rather say, in the present state of the argument, *phenomena*, included under the general term of transcendental anatomy, which we may describe under three orders:

1. Monsters by excess; or *transcendental* anatomy, properly so called.

2. Monsters by default.

3. Monsters without excess or default, but with peculiarity of structure or function.

Under the first of these orders are included supernumerary parts, as fingers, toes, limbs, heads, testes, uteri, hermaphroditism* (so called), imperforate parts, disproportionate viscera, &c.

Under the 2d order, or monsters by default, we may name hare-lip, fissured palate, defect of fingers, toes, hands, feet, nose, eyes, legs, arms, head, abdominal parieties, brain, spinal marrow, uterus, &c.

Under the 3d of these orders, we may include corporeal and mental anomalies, which are neither transcendental nor in default as to quantity; as spots in the skin, albino skin, hair and eyes, &c., transposition of viscera, peculiarities of mind, disposition, temperament, &c. &c.

Before going farther into this argument, let us spread before us the different orders of causes and facts, as we do definitions,

*It is understood that there is no case of hermaphroditism recorded on competent authority, by an anatomist, in which the individual is capable both of impregnating and being impregnated, &c.

axioms, postulates and propositions in philosophy, which may necessarily be looked to, in order to fair reasoning. Causes may be considered, in the language of logicians, *final, active, passive, remote, proximate, efficient.* The several, or joint, or successive efficacy of these is to be duly considered. Again: They may be *mental* or *physical.* It is the mental only with which we have to do on the present occasion. Our facts will be applied to the argument in the progress, as occasion may require.

In regard to the causes of these human anomalies, (and animals too, for they are found in almost all orders of animated nature, as the frog, fish, fowls, quadrupeds of all kinds as well as bipeds,) we find in reviewing the labors of philosophers in the premises, that error which has, in but too many departments of science, ever retarded its progress—a disposition, arising out of the pride of human nature, which leads to a dogmatical denial, not only of opinion formed from observation, because they see not themselves the rationale; but facts on the best authority, because they know not how to make deductions therefrom.

Now in going down, in a scientific investigation, to elementary principles, we have to say that we know nothing previous, in the nature and relationship of cause and effect, to the fact of the immediate antecedence or succession of phenomena which bear, in their nature, that just proportion, one to the other, which must exist, in order to afford competence of causation to the product resulting, when all the varieties of causation, both in the active, passive, proximate and remote relations are considered; and especially, when these causes are, according to the rule of induction, *ascertained and competent.*

In this investigation it is admitted that there are many causes which are occult—not ascertainable in whole, or in part; in others again they are partly ascertainable and partly not: whilst in others again they are all sufficiently obvious. Still however we are not, because we know not any or all of the causation in the case; or because, knowing this, we may not understand how to reason from that which we do know, at liberty to deny the fact of an etiological nature to the case.

In the first place, it is an axiom in logic, as it is in mathematics, that there is no effect without a competent cause. But we are able in this matter to investigate a little more specially, and

determine that there are causes of peculiar nature which do operate through existing media, between mother and fœtus, from which we may reason with tolerable analogy. For example, syphilis is found affecting the tegumentary or the ossious tissue of the new-born child—the mother having suffered this disease during gestation. So of small-pox, &c. Your essayist once knew a woman who herself had congenital cataracts, and who gave birth to seven children, of which we now possess one, all of whom had congenital cataracts. These are all doubtless material physical influences of the mother on the fœtus in utero.

But your essayist is not unaware that there are many grounds of plausible objection to the common opinion which many professional men, with the vulgar, entertain, that maternal influences are extended to the fœtus in utero. Your essayist would, however, analyze some of the most plausible and see if there is not an error in their application to the subject before us—remarking at the same time that those sayings called vulgar, because common, and because their rationale is not understood, are often sayings founded on the observations of nature's truths for successive ages: nor has man the liberty of denying their truth, except on rational demonstration.

It has been said* that a knowledge of the different kinds of the anatomical structure of monsters, affords a very strong, and indeed incontrovertible proof of the absurdity of the common notions—that the most zealous advocates of these notions will hardly contend that the imaginations of the mother can annihilate one-third, or one-fourth of the head, and adapt it to an exactly corresponding piece of another head resembling it in size, form and features—make a double vertebral column, &c. It is triumphantly asked, "how the longings, or fright of the mother can dispose of the brain, membranes, scull, scalp, &c. as in acephili?" "How can it stop up the anus, destroy the fore-arm and place the fingers on the end of the stump, annihilate the nose and bring together and confound in one the two eyes, as in a cyclops?" Again, we are asked, "how do hogs, horses, hares, &c. long?" "How does the explanation apply to trees and other vegetables in which monsters are found?"

*Rees' Cyclopedia, word Monsters.

It appears to us that results are not liable to be *identical* from *different remote* causes, as from the same, even if the proximate and immediate cause influencing be the same; and we would look fully to the etiological department of this question; because in so doing we may perceive reasons to account for results, similar or dissimilar, by similarity of the proximate; or dissimilarity from difference in some of the causes considered of minor influence, as the passive, or the remote; and in passing, we must remark that, here is a field for great error in practice; nor has it remained uncultivated. Predisposing and remote influences are generally more or less obscure; they are farther off, apparently, from the phenomena we are called on to correct, and, obscured by the glare of the exciting causes, they are lost sight of as contributors to or modifiers of the morbid phenomena. As these are indeed the great *specified* modifiers, no course of treatment founded on a reasoning process in which these have been omitted, or not allowed their due influence, can possibly be correct, provided this predisposition be abiding, which is generally the case. And hence it seems to us has arisen the great error of the ultra solidists in medicine, and hence, the inglorious evanescent bubble which arose from Val de Grace, and meteor-like, glittered in the firmament, and shed a false glare over the world, obscuring for a time all rational views, until like a sweeping pestilence, it left death and destruction in its train.

We find, as we have before intimated, that writers have jumbled together facts essentially different in their nature and their indications of causation, and applied a similar causation to this heterogeneous assemblage, to try its proportionate appearance as cause; as in the triumphant description of their position just above referred to; and that, even here, they have made the application to false premises for making the test, thus:—"How can longing, or fright *dispose* of the brain, membranes, scull, scalp; or how *destroy* the fore-arm, &c.?"

These, it will be observed, are our second order of monstrosities, or monsters by default. Now, it is altogether assumed on their part, that the brain, scull, membranes, &c. of the head, or that the fore-arm was ever there to be "*disposed* of" or "*destroyed.*" This assumption cannot be allowed; for nothing positive has a right to be assumed, without some evidence of the fact. It may, therefore, instead of endeavoring to shew how the

mother's longings, fright, &c. shall be made appear competent to the effect of removing these parts in default, be denied that those parts were ever there in the case which ultimated in such a deformity. But men have gone a great way to find cause, more strange than any we need find, to account for "*the removal*" of a part, without any evidence that the part ever did exist to be removed by such a cause. It were enough, to find cause for the present phenomena, without reaching beyond this to involve our already difficult problem in mist and confusion, before it is called forth by the *facts* of the case.

Although the condition of the body is known to reflect certain influences on the mind, still the great superiority of this to the mere organism, has not remained unclaimed and unestablished to this day, and to this argument. Its power of effecting physical ends through the medium of the organization over which it presides, is a proposition which none may controvert. It is therefore a remote, mental cause, of many physical effects, acting through the medium of the organism. But it is not the only cause which may bring the organism into a certain state of *exuberant* or of *deficient* functional action, no more than that traction is the only manner of applying force to move a body. Propulsion may do it as well. It may no more be considered the only cause, than that the force in moving this body must only consist of animal force, when steam may as well effect the same.

In generation, and in gestation, the fœtus is developed by vascular action in effecting secretion and nutrition, and appropriation to the accomplishment of the purpose in view. This is all amply provided for in the previous developments and limitations of growth in the female, and she is physically prepared for the sustenance of the fœtus *in* and *extra* utero for a certain period of her life. Thus arranged according to the regular order of nature, and the imperfect performance of the functions, the whole fœtal formation and development is effected. This is all just as plain and simple as that the stomach, in a perfectly healthy state and condition, receives good diet, and digests it perfectly, and the nutriment is then regularly and rightly appropriated to the renewal or the proper development of parts. But here, the impression of profound grief, or transporting joy, or excessive anger, will impair the appetite, and the depressing passions more or less completely impair or destroy the digestive power

of the stomach, as well as excessive watching, abuses of wine or diets;—causes essentially different in their natures. When animation is concerned, the law of causation *appears* to differ; but it is only *appearance*, because we do not always know how to estimate the difference of this accessory or modifying cause.

Generation and uterine development of the fœtus is but a function, as other processes in the economy, as digestion and nutrition; nor is it more entirely exempt from the power of disturbing causes than other functions. This is obvious in many ways. Let us bring to our view the facts of nature. Your essayist once had the care of a lady who had three children successively, who were born with imperfect feet. In each of these pregnancies she was seized with a flooding about the period of fœtal growth at which the feet are perfected in their developement. The deformities were very similar in all the cases. At the subsequent pregnancies, hemorrhage was prevented, and no more deformities occurred in the only two succeeding births. Again: It is a fact of common observation, that in the advance of the child-bearing period of woman's life, when the surplussage to which she is subject for about thirty years of her life, is less abundantly kept up, her last lactations become insufficient for the sustenance of her offspring after birth. It is in like manner often manifest that her last pregnancies are less perfectly sustained, and sometimes, from this cause alone, abortion or premature birth takes place. Here is a physical cause of that fœtal imperfection which does sometimes arise in this period of life. In the other case, where there was actual loss of blood at the time for certain developements, these parts being then developing, were retarded in their progress, and deformity or monstrosity of the second order, or monsters by default, were the results. Here was again a physical proximate cause alone, so far as could be determined, or reasonably supposed; for when this cause was prevented, the resulting phenomenon was likewise.

But your essayist takes this as a postulate, the proof of which is however observable in many physiological phenomena, that mental causes are often antecedent to the physical phenomena, and indeed exert decided influence on the physical organization to the end of producing physical effects. An example is found in the condition of the pulse, and of the capillaries under the different exciting and depressing passions; as tranquil joy, highly exhil-

erating joy, anger, fear, grief, &c. Another is found in the impaired appetite and digestive powers under the influence of profound grief, &c. To these we might add many more, but these are decidedly in point.

If then, those sensorial motions which we call passions, have power to lessen, and to increase the appetite and the digesting and appropriating powers by their influence on the organization, so that excess or defect of nutriment may be created; and if at the same time they may so influence the circulatory system, the very machinery of appropriation, as to increase or decrease its actions or appropriating functions, why may not this, as a remote cause producing a decided influence on the organism, thus, be considered as a cause of monstrosity by excess or by default —transcending the ordinary boundaries of nature's limits, or coming short thereof. Who that has been in the habit of attending nursing women, has not observed the injurious effects of that milk on the child which was elaborated during fits of violent anger? And who does not therefore regard the temper in this view in selecting a wet nurse? Again:

The feelings of the nervous system, (of which system, surely we know but little,) vary in health, yielding different physiological phenomena as decidedly in the different temperaments, as the skin does the inter-communion of sexes of different colour. Contemplate the prominent characters of the leading temperaments—the sanguine, the nervous and the phlegmatic, or the melancholic. Are they not as widely different as the sombre-looking, short-legged, clumsy Dutchman, and the sprightly, shrugging, jumping, dancing Frenchman? They are not unlike Dr. Goldsmith's Genius and Industry; the former of whom was remarkable for being seen with brilliant eye and light step, starting behind Industry in the ascent of the hill of science. At the next view, he is far above—presently at the summit, and anon, at the base; whilst Industry is laboriously trudging along with heavy, but sure and firm step, never losing ground; and who, by the time his competitor has passed and repassed in his giddy whirl to the base, is found seated on the sublime summit, firm as the rock of De Kalb. What can be more different? So it is with temperaments. Their plans, views, feelings, tastes, are all different—not calculated to harmonize in running along the stream of life, unless the peculiarity of one or both should be

wholly over-ruled by good sense and great prudence. So much is this the fact, that they are perfectly unfit to be joined in matrimony. Whilst a *supposed* neglect, or abstraction of mind, would be by one (the sanguine) received as fire in powder, arousing the most frantic and ruinous passion, and impelling to deeds of direst vengeance, even towards the best of friends. Another (the nervous) would receive the same with mortification of feeling, sorrow and tears; whilst the other (the phlegmatic) would pass it by as the idle wind, without feeling or regard. Whilst one, indulging the dictates of its own taste, will attire itself in scarlet, buff and gold, or its shining substitute, brass, a second seeks the more delicate and modest apparel of unconspicuous or various hues; and a third the most plain, uniform and grave apparel, regardless of, or disgusted with, those peculiarities of dress which would be calculated to render him conspicuous: so of many other peculiarities of these different healthy varieties of nervous natures. But these are physiological phenomena. Considering the human mind as an abstract entity, possessing power, but needing a channel for the communication of that power, we find an anatomical arrangement finely adapted to intermediation of this power as a remote cause; and the phenomena of the physical operations of the organism, and the physiological chain of phenomena is found to extend from a *sensorial motion* to the nervous system, (the same through which sensorial motions come from physical causes, or in some part of which it is generated by the operations of the mental faculties.) which nervous system is a bond of union between the mind and the organic functionaries, and through which these are influenced in their actions or conditions—perhaps action—perhaps the want of it.

We see, therefore, thus far, a train of communication of power and of susceptibility sufficient to be considered as affording the means of causation antecedent to the physical cause proximate to the effect on the fœtus; for none will now deny that the fœtus in utero is nourished by maternal nutrition for the chief part of its development, as there is no other source, unless we resort to the old hobby, sympathy, and say *this nourishes it:* and we trust the day for that has passed, never to return.

Now it is not denied that the fœtus is often influenced by physical causes alone, without the least influence of mental; but if in any way, the proximate causation may come to be the same in physical kind and power, and consequently in effect, as it well may, by physical agents impairing digestion and nutrition, &c. and by the influence of the passions as we have seen, why, your essayist would ask, may we not, when we witness the same proximate phenomena in the relation of cause to the ultimate physical effect, for which we were attempting to account, conclude that these are related as remote cause and effect; as to exclude that which did operate in the line of direction, so to speak, of the phenomena? As well might we refuse to acknowledge that a grandfather belongs to the chain of causation of the existence of the grand-son, and say that his father was the only cause.

We trust we have shown a way for the operation of mental cause of the ultimate physical effects on the fœtal developement; and that competent causation is at hand in certain cases. Now, considering the sequence of phenomena as it really transpires in many cases, (remembering at the same time that physical causes may alone produce the same final results) we feel compelled to consider the relation to be that of cause and effect, where there is a proportionate relationship between their different phenomena in the sequence.

Here are some examples in point. I once amputated a man's arm immediately above the wrist. A lady residing in the immediate neighborhood, and who was at this time in the early months of gestation received the intelligence with very strong impressions as to the kind of misfortune. When her child was born, the arm was deficient from the same part at which that of my patient had been amputated.

Your essayist is aware that in the annals of science, those who are bold enough to advocate the opinion that fœtal peculiarities of the skin, &c. may be the effect of mental impressions of the mother, are called, by way of reproach, "*soi-disant* philosophers;" but in philosophical investigations, he places himself out of the reach of that kind of management for getting around or over a connected train of phenomena which cannot be broken in upon by a *mere* rational philosophy, not founded on facts, and holds those as in ignorance unimprovable, and on ground un-

worthy of refutation, or even serious consideration, who will dogmatically condemn and attempt to break up the evidence which a chain of facts affords, because they cannot understand the rationale. It is enough if the sequence of phenomena be established. Nor is it repugnant to sound reasoning to find that with a train of *conspicuous* phenomena, the result is not always precisely the same, because, if A. B. and D. be a train of phenomena which alone would produce a given effect, as E., then C., another cause may interpose somewhere in the chain, and if it do, must of necessity manifest its effect in the resulting phenomena, and another resulting phenomenon F. be produced. But if C. be not known or noticed, it would be argued that A. B. and D. were in this reasoning process all the antecedent phenomena and consequently all the causation, and that it is contended that *they* produced different results under like circumstances, which is impossible. But this is nothing more nor less than evidence of the ignorance of the intervening cause C. and does not impair otherwise, the correctness of the reasoning when all the phenomena are known and observed.

Facts are too common and too well characterized to leave a doubt—not that maternal impressions always produce anomalous appearances, but, that they do in many instances—that is to say, in the terms of the question before us, they can produce effects on the fœtal developements. Women of the best intelligence and observation, who *feel* the power of longings, or the other strong mental impressions in a manner, of which, doubtless, man cannot conceive, with one consent, and in all ages have, on observation confirmed the fact of the *sequence* of the phenomena, where they have existed at all; and the physical representation of the phenomena in the organization has, in thousands of instances, been so exact a representation of the mental configuration, that its legitimacy was no more to be disputed than the fact is that different colours must have been concerned in the causation of a human offspring of a colour intermediate between white and black, because that communication was not known in the abstract.

It would be as rational to deny that when the artist executes a design on his canvass or marble, that his mind, or his mental conceptions of that design had influence in the production, or that the archetype in his mind was a cause of the result. The

chief difference is that, in one, we see, and in the other we do not, the modus operandi; and this convinces our understanding. The fitch and palette, or the hammer and chisel with the physical force of the living hand, guided by the mind of the artist, as seen in his close attention to his purpose, assure us at once of the real nature of the whole process. But we should be consistent with ourselves; for we do not know precisely the whole operation of nature in the growth and full developement of a rose; but this does not make us doubt its having been produced by the natural process of growth, effected by certain causes, and so influencing its parent stock as to cause its sure and beautiful developement.

Many instances are familiar to the mind of your essayist, in which the design originally drawn on the tablet of the mother's mind has been represented in the skin of the offspring. He has seen the cherry, the mulberry, the strawberry, honey-comb, the skin of different animals represented as accurately after the avowed peculiar impression on the mother's mind from longing, fright, &c. as the painter can detail on the canvass his mental conceptions. He has known those representations of such character as the mother had never conceived of, until the moment of receiving the strong impression during pregnancy; and so perfect in character that the peculiar representation on the skin was not distinguishable from the original prototype which had created the maternal impression.

Your essayist once delivered a finely developed child, in all parts except the head, which was, in shape, ears, eyes, colour of hair, &c. &c. the precise representation, (according to the testimony of the mother of the patient,) of a dog which had, to her very great alarm, in early pregnancy, seized the mother by her dress on her entering a yard in the country. The mother of this child never saw it, nor does she now know of the deformity. Its knowledge was limited to your essayist, the mother of the patient, and an attending female friend. The grandmother of the child who accompanied the pregnant mother at the moment of this alarm, described the dog—the shaggy and red hair of the head, &c. before seeing the child.

Your essayist knew a lady, who he thinks is yet living, when she was a child—practised in her father's family, and saw her frequently; whose mother was, during gestation with her, and

in the early stage of it, suddenly alarmed, nearly or quite to fainting, by the unexpected appearance of a tropical dog, as they called it, which came from behind her as she was walking the street of the village in which she lived. When the fruit of this pregnancy came forth, it was a daughter, beautiful in face and general form, but whose skin wore the identical peculiar appearance of the dog by which the mother had been alarmed, even to the colour, grain of skin, the peculiar scattering bristly hair, and every other character. This peculiar skin covered by far the greater part of the body, extending over the breast and neck almost to the base of the cranium.

Your essayist has known a case of mental mark, or impression, communicated to the offspring without corporeal change, and not less conspicuous and plain, (and it could not be more clear and positive) than those above given of corporeal deformity, which comes under our third order of monstrosity, or those in which there is neither excess nor default; but having protracted this essay to a very unexpected extent, he forbears to state farther facts, many of which he has observed personally. In conclusion, your essayist will remark, that although evidently the truth that the fœtus receives physical from maternal mental impressions, still nothing appears to him more difficult than to determine *how* many of these impressions are made; because of the manner of nutrition of the fœtus in utero during the first two or three months.

Were the umbilical circulation or communication existing during this time, it would not, in his estimation, present the great difficulty which it now does. But the facts of human ovology prove to us that until about the middle of the third month, the embryo derives its nurtriture from the umbilical and alantöid vesicles with which it is provided; for the umbilical communication with the mother is not yet perforated or completed; nor have we any reason to know that direct nervous communication exists between the mother and the embryo through the umbilical cord even when perfected.

Closer observation, however, may prove that only those impressions which happen to be made for a very short time after the umbilical channel becomes perforated, are those which take effect, as we know of many very strong ones made at other periods in pregnancy which are not followed by nœvi maturni.—

Were your essayist to advance an hypothesis on this subject, he would say that, to have effect, the maternal impression must be a strong and vivid one, and must be made during that period of gestation at which the particular part of the fœtus impressed is being perfected or developed.

ARTICLE II.

Extraordinary case of Rupture of the Rectum and protrusion of the Intestines through it, and their expulsion externally, per annum. Read before the Georgia Medical Society, at Savannah, Feb. 4th, 1838, by Richard D. Arnold, M. D., of Savannah, Geo.

The following strange case occurred in the practice of Dr. J. C. Habersham. As I wished to bring it to the notice of the society, I requested of Dr. H. a history of the case so far as it had been under his observation. The following letter from Dr. H. to myself, will afford the necessary information:

"Feb. 2, 1838.

"*Dear Sir*—I was called to visit the woman Flora, owned by Mr. Blake, on the 19th November last. She had been sent from the country under the impression that she was crazy. She complained of pain about the occipital region, had furred tongue, and on pressing the epigastrium, she said she experienced a dull sensation of pain. I applied a blister to the neck, and gave blue mass and c. oil. The next visit she was missing, and was absent from the mill two days, and when she returned, said she had been to see her friends. She continued to convalesce until about the 16th December last, when I was requested to bleed her, as she said she was again troubled with pain about the epigastrium. She got better and was assisting in the cooking department at the mill, and continued there until the 24th January last, when I was requested to see her early on that day. A woman who professed to be a widwife, had been with her all night, and told

me she was in labour. As I had not suspected pregnancy during my attendance, and as my attention had never been directed to that condition by her, I doubted her statement, and uncovering the patient, I found, to my great astonishment, a vast quantity of intestine tied and suspended on the floor in a handkerchief. The woman said that Flora had complained of being in labour when she was called to her, and they were both under that impression when I commenced the examination. As you saw her with me about a half hour after my first visit, I leave the subsequent circumstances to your own recollection.

"Yours, very truly,

"J. C. HABERSHAM.

"To. Dr. ARNOLD."

By request of Dr. H. I accompanied him and Dr. Richardsone to visit her while still alive. We found her lying on the floor, cold and pulseless; and protruding from the anus and lying on the floor, was an immense portion of the intestines, which upon inspection we pronounced to be small intestine and a portion of the colon. The mesentery was attached to that portion of the small intestine protruded, in an almost entire state, except where it had been torn from its attachment to the posterior parietes of the abdomen. The intestines protruded were cold and vitality had evidently fled from them. It was found that there was no rupture of the vaginal canal, and that the protrusion was posterior to it. The opening by which they protruded seemed very large. An unsuccessful attempt was then made to return the bowels—after which nothing further was attempted. She died in about half an hour afterwards.

The dissection was conducted by Dr. J. Blakely Tufts and myself, four to five hours after death, in presence of Drs. Habersham, Earle and Richardsone, and Mr. Guernsey, student of medicine. The body was that of a robust female, the muscular system very well developed. The abdominal muscles presented no peculiarity to attract attention. On cutting through them, the stomach was perceived very much distended with wind.—The greater portion of the colon also appeared in the abdomen. The peritoneum appeared highly injected.

In order to ascertain what portion of intestine had passed out, an examination was carefully commenced from the duodenum downwards, the mesenteric attachments being carefully cut and

the bowel, (as it were) unravelled. It was soon perceived that the portion of bowel protruded, involved all the small intestines, beginning from the upper third of the jejunum, and the whole of the cœcum which had been torn away from its attachments in the right iliac fossa. I now passed my finger freely from the cavity of the abdomen through the opening by which the bowels had passed externally. It was the impression, I believe, of every one present, that there had been a rupture of the perineum. What was our astonishment, when, after further dissection, we discovered that there was a *rupture of the rectum* upon its anterior portion, five inches above the anus; and that *the intestines had passed, through the aperture made by the rupture, into the rectum and thence externally per anum.*

The intestines that had protruded were then cut off, and the rectum with the sphincter ani carefully removed. Further examination proved that there was no rupture of a single fibre of the sphincter ani, but a simple dilatation; and thus *revealed the extraordinary fact of a person's having actually passed per anum the greater portion of the bowels in the body.* A case similar to which no medical gentleman present had ever seen or read of.

The rectum presented a slate-coloured appearance over nearly its whole internal surface, and around the edge of the rupture the mucous membrane was quite black. In short, it abounded with marks of chronic inflammation.

The mucous membrane of the stomach was not at all unhealthy. The womb was examined, but presented nothing abnormal.

How then did this extraordinary protrusion happen? I think the explanation may be given as follows:

The fact of the rupture of the rectum is of itself a sufficient proof that there was disease of long standing in that bowel. A portion of the small intestines lay in contact with the diseased portion of the rectum, and when the coats of the rectum burst, slipped into it, and then, portion by portion was involved and then expelled; on precisely the same principles that defecation is carried on. A foreign body was felt on the mucous membrane of the rectum, and every action proper for that purpose was called into service to expel it. Hence those continued and bearing down pains which were mistaken by the sapient midwife for parturient ones.

No examination of any other cavity than that of the abdomen was made.

When the woman was first taken with pain, she tied a handkerchief very lightly around her waist.

I have not been able to find any written record of a case in any way similar to this, and hence I thought it would not be uninteresting to the society to present it to their notice.

Part II.—REVIEWS AND EXTRACTS.

Notice of Patent Laws and Letters Patent, particularly in regard to their influence on Medical Discoveries, Inventions and Improvements.

Letters Patent—Hull's Truss—Utero Abdominal Supporter.

It is said of the science of law, that it is founded on reason and justice. That this is the intention of law-givers, we feel no disposition to controvert on the present occasion. If this be the fact, governments should have a definite purpose of *justice*, regulated by *reason*, in authorising grants of exclusive privileges, or the protection which letters patent afford for a time. If the laws of a state be intended to effect the reasonable administration of justice, it is clear that legislators have failed of their purpose in the enactment of what are called patent laws, or that there is no law more infracted and abused than those which authorize the issuing of letters patent for the protection of inventions, discoveries and so forth. To the rational consideration of this subject we would call the attention, not only of physicians, and the community at large, but of legislators, presidents and sovereigns; and we apprehend that in the investigation it will be found that the error is rather in the departure of legislators from the true line of reason and justice in the framing of the law, than in the infractions of patentees; for men rarely refuse grants of benefits or even sinecures, when these are freely offered to them.

Letters patent, or overt, are grants by a sovereign, or in the United States, by the president, under seal with his own proper signature, securing to inventors, discoverers, &c. the exclusive

benefits of such inventions, discoveries, &c., provided always, that the privilege or protection secured do not be construed to interfere with the rights of others previously enjoyed. They are so called because they are open, with the seal and signature, as testimony of the right therein secured, and in contradistinction to *close rolls*, or writs, charts, &c. directed to particular persons, and under seal. *Patent letters* secure to the patentee the sole right of profit, *with the privilege of fixing the price of his invention*, discovery or improvement, without any other restriction except that which the purchaser himself may impose by his refusing to purchase. Letters patent royal are then, nothing less than a relic of the ancient British statute of monopolies; and the patent laws of the Untted States are nothihg more nor less than a perpetuation of the same on this side of the water. Let us examine briefly, how far reason and justice are regarded in these patent monopolies.

What is the reason which induces governments to grant letters patent? It is mainly the encouragement of useful enterprise, ingenuity and industry, by securing to those who labour in inventions, discoveries or improvements, all the benefits arising from such improvements. But is this a good reason, and is it all which should operate on the minds of legislators who, in enacting laws, are in a good sense, acting as arbiters of justice between two parties, the interest of, and justice to both of whom should be alike consulted, as well in this case as in the common law operating between debtors and creditors? To secure the inventor in all he can possibly exact from the necessitous user, is as partial as it would be to secure all the claims of a creditor, immodified, unrestricted by the just offsets of the debtor. Justice therefore is alike necessary to each party, and should be so esteemed by every legislator. How is this regarded by the patent laws? Not only in securing to the patentee a just and proper reward for the time, labor and money necessarily expended in the business of experiment and construction, and the security of due reward and remuneration for the same subsequently in the promises; but, a grasping monopoly, sufficient to overwhelm the moral principle of almost any man and induce him to search as deeply as possible, not only into the full pockets of the wealthy, but the scanty ones of the poor and afflicted who may chance to need the benefits of his labor.

On examination, however, we shall find that the first bearing of this reasoning has not that force, which, at the first glance, it may seem to have. Men of genius for discoveries, inventions and improvements are, we think, always men of active minds which will operate. These operations are effected, without being led on by the promises of pecuniary reward. They are generally minds which are not sordid, not regardful of money, but

active, searching and ever observing. If such individuals have money, they expend it in supporting the operations of their genius more freely than money is expended for other things, if we except intoxicating drinks and other gratifications of the "lusts of the flesh." Moreover, it is incompatible with true inventive genius, to turn even their own valuable inventions to good money purpose. We have known such a man die in advanced age with some dozen and a half patents, many of them expire, without having turned any one of them to the purpose of his own pecuniary benefit: one of which, from its intrinsic, indispensable utility, and the extensiveness of the demand, could not, with proper attention, have failed to yield several hundred thousand dollars. He was ever most ardent and active in the accomplishment of his discovery or invention; but no sooner was it realized, than its interest appeared to be lost, and the mind engaged in the zealous pursuit of another invention. A parsimonious disposition and a very active and ingenious mind, are naturally incompatible, and there is scarcely a more difficult task than for the active minded man of genius to exercise even prudent economy. His prodigality in the use of money is proverbial.—It is indeed one of the infirmities of genius to undervalue money in all respects, and more especially in regard to its expenditure for the development of the designs of genius. Hence it is, that such persons are generally burthened with debt, and die bankrupts, or at best, men of small fortunes. The love of money must predominate over the other feelings and mental operations, in order to amass a fortune, and those fortunes accumulated by patents are generally indicative of the unworthiness of the invention or discovery; because they are not the productions of such mind as will turn it to money account. The designs of men of genius are peculiarly rich in their own view. No one else sees in them the same beauty and interest as the projector himself. They have his partiality as his own children do, in whom other people see no uncommon interest; but in whom he sees and feels peculiar value.

True genius has a force, in this way, which impels it onward to the accomplishment of its designs. The whole of the fine arts, as they are only cultivated successfully by persons of genius, generally end in abject poverty and ruin, or a bare subsistence; or at most, a moderate competence. Old age comes on after a life of great toil and effort, with but moderate supplies for this winter of life. The genius of the poet operates for the perfection of its designed verse, which cannot, in any way, remunerate him for the time, labor and money expended. The same may be said of the painter, the composer of music, &c.

The effects which result from the operations of their genius are intoxicating. Designs are pictured to them in more vivid colours than they are to others, and this created a value for them

which prepares the way for sacrifice of labor, time—every thing that is valuable, to the effecting of that design, and which, when effected, is contemplated with indifference by some, a passing interest more or less deep by others—perhaps the majority; but to him, it is ever rich and glowing with interest—not the interest of the money it is worth, but the interest it possesses to the feelings of genius. He sees in his "*effect*," a clear and beautiful reflection of his own mind, and is enamoured of it, as the beautiful Narcissus, who saw his likeness reflected by the fountain, and, believing it was the nymph of the place, was said by some to have gazed at it until he starved. But others say that Narcissus destroyed his life in consequence of the provocation of his fruitless attempts to acquire the object which fascinated him. So it is with true genius. Its designs are presented to the mind as the reflected image of Narcissus, and fortune, time, life—every thing is sacrificed to its fulfilment. This is the true course of nature. It is the same in inventive genius in other departments. Labor may be bought, may be promoted by money; whilst genius is like the resistless power of steam—it must operate in the noblest effects, or direful explosions; and unfortunately, the latter issue is but too common.

But notwithstanding this natural course of genius, the community receives a substantial good from its operations, and a *quid pro quo* in return may be always right—certainly not less so for mental productions than those of labor or cash cost. The man of genius who has expended his valuables, (and amongst them his mental labor may perhaps be estimated as of most value—indeed it is the *sine qua non* of invention,) in the production of a valuable discovery or invention which it is the interest of the community to use, is entitled to a fair reward and remuneration at their hands, for his labor and expenditure. A bridge or a ferry charter is but a species of patent right; but its price is determined and fixed by the legislature; and on what basis? That of a reasonable, or if you please, a liberal reward for all the expenditures, in making and perpetuating this good to the community. Were it not so, what would be the tendency, and where the end of human avarice which, instead of being fed and cherished, should in all cases, for the best public, as well as social interest, be restrained? It would tend to, and end in this, (and we say it from a knowledge of human nature.) that extortion would be exercised to the utmost cent when the necessities of life demanded the good of a passage. The same may be said of physicians in whom great confidence is placed, when danger comes, were it not for the restraining influence of competitors which makes them willing to render their services at a fair valuation. Indeed the whole social compact is regulated more by the suppression of monopolies than the force of the moral principle. The monopoly which is granted in letters patent, is therefore calculated, as

far as the subject of it will allow, to subvert good order, equality of right and all the best interests of the social compact; is obsolete in the policy of government and should be allowed no footing as such, in a republican community intended to be civilized. It were better, if, in all cases of this kind, the government were made one party, and the inventor the other, and a price determined on a proper basis—the real value of the commodity or the invention, and paid by the government for the common weal. But if this be objected to on the ground that taxation is equal, but all who pay tax do not wish the use of the invention, which by the way is not a valid objection, the government should still be the party on one side, to determine the value of those labors, &c. to which a monopoly is to be granted, by way of rewarding or remunerating the inventor or discoverer. Instances of this are abundantly afforded in all civilized governments. There is the same propriety in it as there is in regulating the common interest in a state, by law; or the interest which a bank shall receive for the use of its money. Why is it that six, seven, or eight per cent. is fixed by law as the worth of the use of money? It is that men who have surplus capital can well afford it at this price, and the tendencies of a higher price would be but to fix and increase monopolies for the wealthy, to the ruin of others; notwithstanding these would often, from necessity of the moment, find it of more value to them. As to fortune, the happiness of a community depends much on its equal distribution; but monopolies tend now, as they did in the days of Queen Elizabeth, to that inequality which ends in one direction in oppression, want, misery and ruin; and in the other, in monied aristocracies with power and disposition to oppress and enslave the poor; and cultivate for themselves every ruinous vice and luxury. They are like electricity, which, when its equilibrium is destroyed, according to its degree, commotion is the consequence; as the gentle breeze, or the wild tornado, the rending lightning, or the engulphing, destroying earthquake. But when in equilibrium, all nature presents a scene of universal repose.

Now it is quite as easy a matter to determine the value of a discovery or an invention, or improvement of any kind, and to regulate the price for it, as it is that of money; and the governing principle is the same—a liberal remuneration for all the costs incurred: the exclusive right of manufacture and first sale being sufficient protection for the perpetuation of this benefit.—When the American government found it necessary to encourage domestic manufactures and industry by a protective tariff, the sovereign people and their intelligent representatives found it sufficient to protect so far as to secure the preference of the purchaser for domestic manufactures at a fair price. This was done by a small duty imposed on certain foreign importations. The intelligent American citizens threw at once their capital

under this protection. It was all they wanted; for it secured them the sale of the products of their own labor and capital; without dangerous competition from abroad truly, but with abundant competition at home. They obtained a good interest on the capital and a satisfactory reward for their labor; and hence mainly, came the swelling tide of wealth, which extinguished the national debt, nearly freed the people from taxation, and burthened the treasury with overflowing millions for restoration back to the people. Why then may not the protection of exclusive right of manufacture and first sale at a fair valuation of the money and labor concerned, effect all the good and prevent all the evils of a monopoly which is without restraint and as insatiable as death. On the present plan of patent rights, the community, so far as its necessities for the discovery exists, are as badly situated as it would be under monied aristocracies unlimited in their usury: the only difference being in the less demand for patented inventions than for money.

But these observations are applicable generally, to the unjust and improper grants of letters patent according to the patent laws, for all inventions, discoveries and improvements. Justice requires that there should be some proportion between the expenses of the discovery, invention, &c. and the price at which it is afforded to the community. But when we consider the proper claims of humanity, these are to be weighed in the opposite scale, as much more precious than the benefits of pecuniary interest. We see no harm, no injustice, in the protection of the right of exclusive manufacture and first sale of a medicine, or an instrument, or any thing calculated to serve the good purposes of humanity in times of distress or danger; provided the article were still afforded and at a fair price: although we should reserve our right of the free exercise of our opinion of such an individual in a community as would not yield so much individual pecuniary interest as would be afforded by a barrier of this kind, placed between the benefits he might bestow on humanity, and the exemption from pain and the prevention of danger or death; for we hold it to be the duty of members of a social compact, as of the members of civilized society, to contribute as their talent may enable them, to the general weal—the general good of the community. The social compact justly demands such a sacrifice by its constituents. The most favorable sentence therefore, which we could put on such, is the same we should on a physician who would smile at the continuance, or wish for a cause of pestilence in his community which should afflict both this, and his professional brethren, in view of the increase of his own profits, or the opportunity thus afforded him for extortion. He is *destitute of humanity*, and consequently unworthy of a place in the profession of medicine, who will thus limit the good which the operations of his own mind might effect.

He is indeed, no more called on for *pecuniary* sacrifices than other men; but possessing his knowledge of the causes of disease and the preventive and curative means, he is peculiarly called on as a good citizen, to give the free operations of his own understanding, for the general good. His doing this constitutes his peculiar worth as a citizen in community; and his refusal should take from him all those superior claims; and more, because he alone has judgment in such matters.

But when an invention or improvement is made, the end of which is *benefit to humanity*, as in the discovery of valuable remedies, the claim of the community for protection against extortion, is as far stronger than that against pecuniary losses, as the desire of life is superior to that of pecuniary profit.

It is not a little strange that, although monopolies of this kind were found to be erroneous, oppressive and unjust, as long ago as the date of the great charter of the liberties of England,* and the same decision confirmed by Henry III. and Edward I., a monopoly of any description capable of exercising oppression should still be authorized by law, both in England and America; and more especially when calculated to operate against the preservation of human life. Legislators, therefore, who profess to have one spark of humanity, should look to this inconsistency, this prostitution of sacred rights, of justice and of reason, by which monopolies are created with power to drag from suffering humanity the last shilling of poverty itself, *unjustly*, because out of all proportion to the sacrifices made on the part of the proprietor. A fair investigation of this subject will bring every unbiassed man to this conclusion:—that it is just and reasonable that even in discoveries and inventions which are for affording facilities to the accumulation of profit, or for labor-saving, &c. should be granted—it being no less than the actual exclusion of all competition in business—a benefit, without which the great mass of the community are content to go on through life, and if prudent, prosper to their heart's content. And surely, not more but less protection, should be extended to those things which have for their purpose the prevention of disease and of death.

Judging from what we know of the effects of patent rights in our own day, we are compelled to suppose that during the fourteen years of the Letters Patent Royal, the essence of peppermint, Bateman's pectoral drops and paregoric elixir, sold at prices which must have been worthy the serious consideration of the purchaser; but it would be an unreasonable man who would not be content with the means of a fortune which would be given him in the exclusive right for fourteen years, of making and vending either of these articles at the trifling price of fifty cents per dozen, as a reward for the expenditure and labor in the manufacture.

*June 19, A. D. 1215.

Under these considerations, it would become the profession, when they find a man not satisfied with the protection of his right to manufacture and sell at a price determined by the expense and labor incurred and bestowed in affording the commodity, but taking advantage of the prohibition extended to others, to refuse to the community the benefits of his labours without sponging from the pockets of the necessitous many times the real value of his productions, to contemn him as an extortioner, as dishonest, and as perfectly unworthy of their patronage.

We well remember when Hull's patent truss came to the consumer at the enormous price of fourteen dollars, which is now, with the same work and materials employed in the manufacture, afforded to the purchaser at three to three and a half dollars; and still the profit is such, that, doubtless the proprietor is prepared to manufacture any quantity that may be needed by the nation or the world, on such terms as will enable the retailer to vend them any where at three dollars, with satisfactory profit. Every dollar, therefore, which the proprietor has received over the rates at which they are now afforded at wholesale, may, to say the least of it, be justly considered as filched from the pockets of the afflicted.

We know another truss of recent invention, the cost of labor and materials in the manufacture of which does not exceed one dollar and thirty or forty cents, the retail price of which by the proprietor or his agents is fourteen dollars.

The utero-abdominal supporter appears to be running the same course. Such has been the enormous price of this article, which should not be worth more at the factory than two or three dollars, that, at their first introduction, the purchaser at retail could not obtain them at less than fifteen or sixteen dollars—a price entirely too high for enabling the practitioner or patient to experiment with an article of such doubtful utility; and druggists are therefore driven to the necessity of affording them at cost and charges.

But we have other objections to this article, besides the price which renders it unavailable in general practice. The disease, for the treatment of which it has been thrown before the community, as capable of effecting a radical cure, is one of great importance on account of its extensive prevalence, the afflicting and fatal consequences to which it tends, and the quantity of disagreeable and expensive treatment demanded for its best management. These considerations compelled us, although incredulous of its just claims to confidence, from our knowledge of the true nature of the disease and the difficulties attending its cure, to pay the enormous price demanded for them, in the wish, (we cannot say hope,) that they might be effective of some good; but our prescription of them has but confirmed our first opinion, which was that they could not cure the disease for which

they were offered; and that their only real utility would be found in their staying, in some small degree, in very few cases, the progressive or rapid increase of the disease, by partially sustaining the weight of the superincumbent viscera. This is no more in effect, and little more in convenience than the old practice we have long and often adopted, of preventing the pressure of the viscera in some degree by a bandage and compress well applied on the hypogastrium. The article then may be looked on as one for which an enormous price is demanded, because it promises a cure without the disagreeable exposure to the ordinary treatment; but which experience proves to be ineffectual and unworthy of the confidence endeavored to be created in it. We observe occasional notices of its utility by practitioners; but we are compelled to say, by an experience with it, as well as from a knowledge of the nature of the disease and the treatment, without which recovery is impossible, and which at the same time, this supporter cannot effect, that these practitioners have been deceived. They have not remarked the consequences, after the effect of novelty passed away from the patent; or they have considered the temporary palliation of distress they sometimes afford, and of which every woman will avail herself in order to avoid those other services which are generally necessary, as evidence of curative power. Women conceal this complaint as long as possible at first; and even after, on the least palliation of their urgent distresses, are disposed to consider themselves well and refuse treatment. Let not the community be deceived in this article—its price is too high to be bought without more great claims than it has to utility; nor should it even be depended on as possessing curative powers adequate to the necessities of any case which would not recover by a few days rest only.

There is one more point in patent laws which merits particular attention, and without adverting to which we feel unwilling to close this notice. Early medical letters patent were rare.—At that day the art of robbing the community out of a fortune was not so familiar to the acquaintance of the people as the latter experience of the world has made it. Applications were few, and they were doubtless well examined, and the articles were of solid merit. But *now* the world is inundated by thousands of secret preparations which are brought to the community under the pressure of captivating names and numerous certicates, quite sufficient for securing the confidence of the people until a purchaser and a trial are made. It is true that the same articles do not generally last longer than a *steamer* does in one settlement, which is a year or two; and has like him, to seek another market which has not yet learned its usefulness or injurious tendencies; but by the time it is gone, others, with new dress and pretence, are in its place. Eighteen months ago, every

chamber mantle was burthened with Jewett's Liniments, and such was the high estimate of them that some of the people were disposed to eat them. Now, scarcely a bottle of them can be procured; nor is the price advanced in consequence of the scarcity.

This proves the inutility of the article as to the real powers they possessed; for they probably consisted of little if any thing more than a little cayenne in lard. But this was sufficient. A twelve-month's run through the country, one sale to every individual who will purchase such things, and an agent for every section of the country is paid his salary of thousands for the years service, and an overwhelming fortune is accumulated for the proprietor—no matter how worthless, as to cost or merit, the article may have been.

Thus is the community, which is ignorant of every principle of medicine and all the means of judging of any thing out of the way of every day experience, imposed on, and thus made tributary to immense fortunes for the undeserving—the impostors. A safeguard should be thrown around the good people, whose innocence and simplicity lay them open to the impositions of the designing. They do not once think that a man would impose something on them which was not fully equal to the praises he bestows on it; or that he would write certificates of remarkable cures, in the name of persons who were not to be found on earth, or even in the name of the respectable, living in some distant part where the publication was never expected to reach. But these impositions and frauds are the very machinery of quack impositions. They are the sole dependance, instead of the substantial merit of the article. This is a matter of secondary consideration, or none at all. Every patentee should be compelled to make the secret of his discovery public; and if by the judicious and scientific analysis of the chemist, or otherwise, he should be detected in fraud in this, he should forfeit his letters patent and be punished additionally. Then might the common people judge for themselves of the merits of the discovery from their own knowledge of them previously; or the scientific might judge for them. Both the necessities of humanity and the prevention of fraud—not one fraud, but perpetual and increasing succession of them, demand that the rights of the community should be protected in this, as well as in such other matters as they are not able to protect themselves in.

Clinical Lecture on Laryngitis and Bronchitis. By W. Gerhard, M. D., Physician to the Philadelphia Hospital. (Published originally in the Medical Examiner.)

Laryngitis. Continuing the subject of diseases of mucous membranes, I shall, to day, consider some of the affections of an organ, the healthy action of which is most important to life,—I mean the larynx. Laryngitis may occur as an acute disease, the symptoms of which are exceedingly simple, and I shall make but few remarks upon it. It occurs both in adults and children, and is rarely fatal; its pathological characters consist in inflammation of the mucous membrane, which is injected, and thickened, to a sufficient extent, to impede respiration. The act of respiration is, in consequence, accompanied by a peculiar stridulous sound, and the tones of the voice altered, in a decided manner. Another symptom of the affection is pain, which, you know, is always present in severe mucous inflammations, although less acute and less limited than in those of the serous membranes. The membrane of the larynx is irritated by the passage of the air over it, which occasions a dull pain, of more or less severity, but not lancinating. This pain is increased by deglutition, from the action of the muscles of the pharynx.

The condition of the voice is an important point in the diagnosis; it is stridulous, which is never the case in simple inflammation of the lungs; shrillness is peculiarly characteristic of laryngeal inflammation; as the disease goes on, the voice is either lost, or resumes its tones by the recovery of the patient.

Laryngitis may be confounded with simple inflammation of the tonsils, from which it may be distinguished by the absence of the nasal sound of the voice, which, in tonsilitis, is caused by the air being cut off, at the posterior part of the pharynx, in its passage through the nose. The diagnosis of laryngitis is a very easy affair, and I shall not detain you with it any longer.

The treatment proper for acute laryngitis, is laid down by every author who has treated of the subject, and I shall not take up your time, by detailing the various antiphlogistic remedies which may be resorted to; laryngotomy, I may remark, is rarely necessary.

The croupal variety of laryngitis, or that in which a false membrane is thrown out, may be subdivided into two kinds. In the first, the formation of the false membrane commences in the pharynx, and this variety is to be recognized by examination of the throat, before the larynx becomes implicated; if it extend down into the latter, unchecked by art, the affection is mortal. In this type of laryngitis, the voice is more shrill than in ordinary cases, or the patient is aphonous. In the treatment of this variety, antiphlogistics are to be resorted to, though they are not alone to be depended on. Local applications are to be made to the pharynx, such as a strong solution of nitrate of silver, or of alum, or the muriatic acid; a sponge may be dipped in these liquids, and applied to the part, which is to be afterwards gargled with flax-seed tea. It behooves us entirely to destroy the false membrane and prevent its extending down into the windpipe, where a slight obstruction is fatal.

The last variety of acute laryngitis is the croupal, in which the secretion of the false membrane commences below, and not above, as in diphtheritis. It is rarely confined to the trachea, but extends much further into the bronchial tubes of both lungs; in this variety, the voice is stridulous and shrill, and, in young children, there is a peculiar cry; there is also cough. The respiratory sound in the chest is feeble, from the difficulty offered to the free entrance of air into the lungs; there are other signs of the affection, such as a flushed, swollen face, and dyspnœa, with incessant restlessness and jactitation. In this variety of laryngitis, so much dreaded in children, the rules

of treatment are are so well laid down, and variety of opinion is so limited, that I shall not detain you by pointing them out at length. It is not to be treated as diphtheritis, or spasmodic croup. Bleedings, general and local, nauseating remedies, as tobacco externally applied, are beneficial in both varieties; but the croupal is an exceedingly difficult one to cure.

Subacute laryngitis has lately occupied much of my attention. It usually occurs in subjects afflicted with previous disease of the lungs; and, when it assumes this secondary shape, it is very apt to be mortal, if suffered to advance, for no patient can resist so extended an interruption of respiration. In these cases, it is the duty of the physician to interfere with promptness. An active depletory treatment is, however, scarcely called for; but we rely upon external irritants over the larynx. Emollient fumigations are useful; and when the disease arises in the pharynx, and passes downwards towards the larynx, as in diphtheritis, it is always proper to apply a stimulant wash to the pharynx. Tracheotomy may be resorted to, after the caustic has been ineffectually applied. Tracheotomy is a remedy of doubtful propriety; the use of it has been abandoned in genuine croup; but it is resorted to in diphtheritis, where the inflammation has not yet extended from above downwards to the bronchi, and there are indications of a sound condition of the lower part of the windpipe.

Chronic laryngitis is the most common form of the affection, and I propose to dwell upon it at greater length than upon the other varieties. This disease has been sometimes termed laryngeal phthisis; but I shall be disposed to doubt the propriety of universally applying this term, since the laryingitis often occurs before the developement of phthisis pulmonalis, as was the case in a patient who has just left the hospital. Indeed, it may sometimes continue for a long period, without any signs of pulmonary disease. Now, in these cases, the original point of disease is in the larynx, although the lungs rarely escape, especially if the affection be much protracted, or if the patient be of an original tuberculous constitution.

The patient, whose history I shall make the subject of this lecture, has been very dissipated in his habits, having twice had syphilis, and been salivated severely for it each time.

The patient entered the hospital June 4th, 1838. He is an Irishman, a single man, originally a sailor, but broke his leg, and, for the last three years, has been a shoemaker. Has drunk freely from boyhood, particularly for the last two years, but has never had delirium tremens. Has had the venereal four times; has been twice salivated, the last time about the middle of last November—recovered entirely, and never before had sore throat or secondary symptoms. Never had a *cold* before, nor ever sick; has always been a stout, healthy fellow, excepting during a temporary illness, in a tropical climate. Began to cough in September, 1837, having been previously quite well, but after drinking hard, slept out in the grass, for several nights. Had no pain; but, nearly at the same time, had cough and hoarseness. The cough has been, on the whole, increasing, so has the hoarseness; and, since Christmas, the voice, which is naturally clear, and, during the whole autumn, has been rough, has been almost entirely lost. Soreness of the throat began about four days after the cough, opposite the depression beneath the hyoid bone. No pain at the sternum, nor any in the chest, except six weeks ago, when it was slight at the anterior part of the right axilla, and was speedily removed by a blister.

The patient went to the Camden races in October, drank very freely, and contracted gonorrhœ and chancres; was slightly salivated; became more hoarse, and coughed more. Went to work at his trade, until the 22d of March; did nothing for his cough until he recovered from the venereal, a month after the infection, when he took simple remedies, as honey, &c. On the 22d of March, he entered the Pennsylvania Hospital, where he remained until two days before he came to our hospital; during that time, he

had less soreness of the throat, and less tumefaction of the glands. The cough continued, with greater severity.

Expectoration began, before he went to the races; he spit about half a teaspoonful of blood, clotted, appearing to come from the throat. Appetite good, until about the first of March, and he drank less spirits. Bowels *never loose;* regular. No pain in the belly, nor uneasiness, after eating. No night sweats. Emaciation began immediately after the venereal. No sore legs. Never had epistaxis, except twice, in last winter.

At the Pennsylvania Hospital, he was leeched twice to the throat, blistered constantly for two weeks, and took some opiate mixture. Swallowed with difficulty at first, but now more readily.

At the time of his admission, his condition was as follows. Emaciation. Light chestnut complexion. Height five feet seven inches. No swelling of the limbs. Strength feeble; can readily walk up stairs, and thinks he can walk half a mile. Much dyspnœa. Pulse 100, feeble, regular; hands cool. Tongue moist; slightly coated. Appetite good. Abdomen retracted; bowels regular; one or two stools daily. Aphonia nearly complete. No pain in the throat, but some tenderness. Uvula thickened, enlarged; slight redness of the fauces only. Cough stridulous; frequent. Expectorates eight or ten ounces of puriform and nearly numular matter. He was ordered lime water and milk, the infusion of the prunus virginiana, and inhalations of laudanum and water.

The physical signs, afforded by an examination, the day after the patient's admission, were the following:—Posteriorly, there was flatness on percussion at the summit of the left side; dulness at the middle, but below it was tolerably clear. On the right side, it was clear, in the lower half, but became flat towards the summit. The respiration on the left side was cavernous at summit, bronchial at the root of the lung, for the extent of two inches; feeble, but vesicular, inferiorly. Pectoriloquy at the summit, notwithstanding the alteration of the voice. On the right side, cavernous respiration at the summit, rude at the root, vesicular at the lower half of the lung. Anteriorly, there was flatness at the summit, on both sides; contraction between the clavicles. On the left side, some vesicular sounds were still heard at the clavicle, with distinct cavernous respiration; a little crackling. On the right side, the respiration at the clavicle was cavernous, without vesicular sound, and without crackling.

I shall not occupy your attention with the details of the progress of this case, but will merely mention the symptoms at the time of the man's discharge, the 27th of June. The intermediate treatment, in addition to that mentioned, consisted in occasional doses of blue pill, with some acetate of lead and opium, for a diarrhœa which came on, and which was arrested. At the time the man left the hospital, his aphonia was rather less; he was feeble, and had irregular sweats. Bowels regular. Cavernous respiration very pure, under the right clavicle; at the left, crackling, with rude respiration; loud and puerile, at the lower portion of the left lung; feeble with mucous rhonchus, at the lower part of the right. Discharged, at his own request.

I shall not particularly dwell upon the case, the history of which I have just given you, but, instancing it merely as an example of the affection under notice, I shall enter into some general remarks on the subject.

Chronic laryngitis is associated with pulmonary phthisis in several ways. The affection of the larynx may be strictly secondary, and result from the direct irritation of the sputa passing over the bronchial tubes and the mucous membranes of the larynx; this form of the disease occurs in the more advanced stages of phthisis when the sputa are more irritating than at the commencement, before softening of the tuberculous substance has occurred. In other cases, the tuberculous disease appears in the larynx nearly, if not quite as early, as in the lungs, and arises from a deposit of tuberculous mat-

ter in the follicles of the larynx. This variety is strictly analogous to the tuberculous affections of the serous or mucous membranes which so often accompany phthisis; that is, the tuberculous disease of these various organs is in reality but a part of one and the same affection, which merely shows itself in many points nearly at the same time. The third variety is the most interesting, and is the one offered by the case which I have just detailed to you. The affection of the larynx does not here seem to be originally of a tuberculous character, but may be either a simple chronic inflammation or one dependent upon a syphilitic taint. The pulmonary affection is of later date, and only appears as a consequence of the irritation which is developed in a continuous mucous membrane. Not that all cases of chronic laryngitis necessarily terminate in this way; it is only those which occur in individuals who are disposed to phthisis, either from original constitution or acquired habits.

Phthisis may not follow this variety of chronic laryngitis for a very long period after its developement. In the case which forms the illustration of this lecture, although there can be no doubt as to the order of time in which the affection of the larynx and lungs appeared, there is a less distinct interval than in many patients. I have seen a number of cases in which the lungs were undoubtedly free from any appreciable signs of disease for months after the laryngeal affection had taken place. In all probability, the lungs were as free from actual as they were from all appreciable lesions, for the general symptoms of phthisis did not appear until about the period when the local signs were discoverable.

I know of no certain rule by which you can distinguish those cases of chronic laryngitis which are to pass into phthisis, from the more simple forms of the disease, in which the ulceration of the mucous membrane and the caries of the cartilages are the only lesions. You should therefore recollect, when you meet with a case in which a careful exploration of the chest convinces you that the patient has no pulmonary affection, how very apt true phthisis is to follow chronic diseases of the larynx, and you should not give the patient to understand that his lungs are entirely out of danger. In fact, such cases are often but the prelude or the first stage of a variety of phthisis, the symptoms of which persist until the death of the patient. From a neglect of this necessary caution, or rather, from not being fully impressed with the connexion which exists between the early and the more decided stages of the irregular varieties of pulmonary phthesis, I have known physicians of high standing commit grave errors, which proved injurious to the health of their patients, as well as to their own reputation. These errors are sometimes committed by physicians who are familiar with the physical means of exploration, and who have acquired that power of diagnosis which is possessed only by those who are thoroughly conversant with the pathology of pulmonary disease; you may readily imagine how much more frequent they must be with practitioners who diagnosticate disease merely from a few of the most obvious symptoms.

There is no difficulty in the diagnosis of chronic laryngitis; but there is much difficulty in distinguishing its different varieties. For instance, if you meet with a case in which there has been pain and difficulty of deglutition felt at the region of the larynx, and an alteration of the voice which may be limited to a mere huskiness scarcely observable by any one not previously acquainted with the natural voice of the patient, you should regard the case as one of chronic laryngitis, if it persists longer than a week or two. The absence of any obvious alteration of the pharynx does not prove that the larynx is in a normal state; although, when the pharynx is diseased, the larynx rarely escapes for a long period without participating in the evil, at least to some extent. The anatomical changes, occurring in this early stage, are limited to a mere thickening of the mucous membrane, especially that covering the vocal chords; it is sometimes so slight as to disappear entirely

after death. This stage of the disease is that which is most frequently followed by phthisis, or, to be more strictly logical, we should perhaps say, that at this stage, phthisis generally supervenes.

You will find the diagnosis of the following stages still more easy than at the period of ulceration. The ulcers are most common near the vocal chords, in the variety which attends phthisis; but in syphilitic laryngitis, the epiglottis is commonly attacked and very often the cartilages of the larynx become necrosed. By depressing the base of the tongue very firmly, you can often obtain a view of the tip of the epiglottis, and thus ascertain if it present the white or greyish ulcer of syphilis. Still in the laryngitis accompanying phthisis, the epiglottis is not unfrequently ulcerated, so that this sign is not infallible. The peculiar grayish colour of the ulcerations of syphilis, and the simultaneous occurrence of ulcers on the pharynx and tonsils of a similar aspect, are better guides. But we are, after all these precautions, obliged to trust largely to the commensurative circumstances, especially to the signs of syphilitic or tuberculous disease in other organs. There will then remain a few cases of doubt; for instance, the patient whose case is mentioned today, has, undoubtedly, had syphilis more than once, and is, evidently, now laboring under a confined phthisis. In his case, I regard the laryngitis as generally of a syphilitic character, but the phthisis very speedily added a new source of irritation to the larynx.

Besides these cases of chronic laryngitis, there are others in which it is very difficult to distinguish how much of the symptoms is owing to the affection of the larynx, and how much to that of the pharynx and trachea which may accompany it. These cases constitute the annoying disease which has been sometimes called clergymen's sore throat. This designation it has received from its frequent occurrence in the members of the clerical profession. It is now rather less frequent than formerly, and is passing from out of the list of fashionable complaints, so that in a few years we shall probably scarcely hear of its appearance. In speaking of it as a fashionable disorder, I do not mean to jest about a very annoying complaint, one that is quite inexplicable, and which indirectly leads to serious consequences.

This variety of sore throat which occurs so often in clergymen, is by no means very rare in other professional men who are engaged in pursuits little calculated to promote vigorous health, and are at the same time obliged to exert their voice in addressing large audiences. There is no doubt that a feeble constitution, especially if inclined to scrophulous disorders, favors in a remarkable degree the sore throat, but, notwithstanding, I have often seen men of a vigorous, and apparently altogether firm constitution, suffer extremely from this affection. The liability of clergymen to this kind of sore throat depends upon several causes; in the first place, the duties of a clergyman in this country are sometimes unreasonably arduous. In many cases his parishioners expect that, in addition to the ordinary duties of his calling, he should take an active part in many religious societies and meetings, which make large demands upon the time that should be devoted to active exercise and cheerful recreation. The origin of the feeble constitution of clergymen in many cases depends upon still more remote causes, and arises from an absurd neglect of the ordinary rules of hygiene while pursuing their preparatory studies. When you reflect upon the influence of these sources of disease, and add to them the feeble constitution that not a few clergymen possess from original habit of body, you may understand the reason why the clergymen in our cities enjoy less perfect health than any other class of professional men. In Europe it is well known that the reverse is universally true.

The affection of which I am now speaking rarely offers laryngitis in its acute form. Indeed it generally commences in the pharynx, and extends in a secondary manner to the windpipe. Its exciting cause may be either an attack of acute fever, especially scarlatina, or it may occur as an ordinary

angina which is prolonged beyond the usual duration of these affections.—When we examine the pharynx we find it to be red, smooth, and irregularly elevated; the redness of the membrane extends also into the larynx, and may be detected at the tip of the epiglottis. When these cases are either acute or have lasted for a long period, the trachea and larynx will be found painful on pressure, and the voice becomes feeble and hoarse.

The lungs often become tuberculous after the irritation of the pharynx has lasted for some weeks, but you must not suppose that there is any necessary connection between phthisis and this affection; it is a more exciting cause, but not a frequent precursor of the disease, as is the case with true chronic laryngitis. It is quite surprising how long these cases will last without the lungs materially suffering, and unless the general and local signs of phthisis are both evident, you must not conclude that your patient is in the early stage of consumption.

Chronic Laryngitis—treatment. The treatment of chronic laryngitis is always a matter of great difficulty; indeed, when the case has become complicated with tuberculous disease of the lungs, you will find no plan of treatment of much avail. These cases of consumption are the most intractable, and most painful to the patient. It is of little moment whether the disease of the throat has occurred very early, or whether it is merely one of the sequelæ of phthisis; in neither can you hope to succeed in arresting the disease of the throat, if ulceration has once commenced. You have seen enough of these complaints, to understand that a cure is scarcely possible, when the interior of the larynx is constantly irritated by the passage of diseased secretions from the lungs, and by the motion caused by either speaking or deglutition. Still a cure does sometimes take place spontaneously, and may be aided by a judicious treatment.

I once saw a case of most complete cicatrization of the larynx, where the vocal chords had been completely destroyed, and the epiglottis was contracted much within its usual dimensions. The voice, of course, was not restored, but the patient was quite healthy, and died of a disease in no wise connected with the larynx. If the destruction has been complete, you must not therefore look for entire restoration of the functions of the larynx, but for the cessation of the local pain felt in coughing and swallowing, as the test of the disease having quite abandoned its acute character. With the cessation of the pain, there is an end of the acute form of the disease which is attended with active inflammation; but there is a form of chronic laryngitis in which the uneasiness is so slight as not to be felt by patients of obtuse sensations. In these cases, the proof of entire cicatrization is very difficult of attainment. You can only judge in an approximative manner, by the diminution of the hoarseness of the voice, and by the cessation of the harsh, stridulous, laryngeal cough, as well as the disappearance of the clotted, opaque sputa, which are formed in the larynx.

The cases that you have just seen of phthisis, accompanied with chronic laryngitis, were not of the most favorable kind for treatment. Still, in both cases, there were results of a very positive and gratifying character. One patient left the hospital with the symptoms of phthis much mitigated, and the laryngeal affection decidedly improved. He will not recover, but the relief which he obtained is in itself a most desirable object. The other patient was still more decidedly benefitted; he has no soreness of the throat, and can speak almost in his natural key. These cases exemplify the only treatment for affections of the larynx which I conceive to be called for; I had almost said, which was justifiable in an advanced stage of phthisis. I directed for both of them merely inhalations of laudanum and water, to be repeated several times a day. About a drachm of laudanum was poured on

some boiling water in an open vessel, and the patient was directed to breathe over the cup twice daily. This mode has some advantages in such cases over any inhaler; it is preferable to using any vessel with a spout, as it avoids all straining or forcing of the muscles of respiration, and at the same time the patient receives a sufficient portion of the aqueous vapour charged with alcohol and the narcotic properties of the opium. You may readily renew the heat by placing a spirit lamp occasionally beneath the vessel containing the liquid. The vapour of tar, which has been so much lauded in the treatment of phthisis, is often of great service in these cases, but is most useful in those varieties in which the inflammation extends over the pharynx, and thence into the larynx and trachea. I am not disposed to exaggerate the value of inhalations,—they have been greatly abused, or at least have been extolled much beyond their value; but they certainly furnish the most direct mode of acting upon the lining membrane of the air passages, and may be managed so as to avoid all risk to the patient.

In these cases, leeches are often advisable; but they should be applied rarely and in small quantities,—for a large abstraction of blood by leeches applied over the trachea, debilitates extremely, and should be avoided at an advanced stage of phthisis. Now the very reverse of this obtains in the commencement of the very same disease; but two or three days since I prescribed leeches above the summit of the sternum for a young lady who labors under the commencement of phthisis; the relief from a most distressing sensation of tickling and itching throughout the windpipe, was immediate. I have seen similar results very generally follow in such cases, and regard the application of leeches as much more certainly useful in laryngitis and inflammation of the trachea, than in most cases of disease; but you must always carefully select the proper time and mode of application, or you will find it positively hurtful. I would give you the following practical rule: when there is soreness of the larynx and trachea, and pain on pressure, without the permanent alteration of the voice and appearance of the sputa indicative of ulceration, you may take from two to six ounces of blood, with almost certain advantage. The soreness of the larynx which accompanies the clergyman's sore throat, is nearly as certainly relieved as that which is confined to the peculiar affections of this organ. This leeching may be repeated, if you find that the patient is not rapidly losing his colour, or showing other signs of excessive loss of blood. You must not, however, expect that when extensive ulceration of the mucous membrane of the larynx has taken place, and still less when the cartilages are necrosed, that the abstraction of the blood from the neighboring parts, will cure the disease; it can no more change this state of things, than arrest the progress of white swelling when the cartilages of the knee-joint are partially eroded. There is nothing to be done, but to check as far as possible the irritation of the part by appropriate inhalations, and then trust to the gradual operation of nature in throwing off the diseased portion. In the syphilitic variety, a mercurial course may be most useful; indeed, you may sometimes succeed in curing cases of the most unpromising appearance, provided they depend upon a venereal cause.

In the late work of Trousseau and Belloc, on chronic laryngitis, which obtained a prize from the Academy of Medicine, much stress is laid upon the cauterization of the larynx. This may seem a bold procedure, and doubtless requires much skill to avoid mischievous effects; but if the operation be practised with care, these authors state that it is not very difficult, and is of great service. They sometimes touch the mucous membrane of the larynx, at its entrance, with the nitrate of silver, but more frequently sprinkle the interior of this organ with a solution of the caustic, by means of a syringe constructed for the purpose. Of course, the great difficulty in the operation consists in introducing the injection behind the epiglottis, and in preventing the caustic from disorganizing the membrane of the larynx, or irritating the adjacent bronchial tubes. I have never attempted to perform this operation,

and cannot therefore speak to you from personal knowledge of its powers; but if I were to form any opinion upon the subject, I should conclude from the remarkably beneficial effects of inhalations, that it was a useful mode of treatment in the hands of those who are skilful enough to employ it. It has one great advantage; it irritates but little the bronchial tubes.

External irritants are recommended, perhaps in part from a kind of habit which makes them always enter into the list of remedies advised for all chronic inflammations. That they are often grossly abused, no one can doubt; and we may regret that we have no means of distinguishing with certainty those cases which are really benefitted by external applications, from those in which they are either useless or injurious. The subject, however, is perfectly open for observation, and may be readily settled on a rightly determined basis by a careful observation. My own experience enables me to give you the following rules as tolerably well fixed. Blisters are rarely useful; I usually avoid them, and would restrict their use to the sub-acute forms of laryngitis; I have seen little benefit, and often much injury, result from their use in the very acute and in the chronic cases. Caustic issues and setons are both troublesome and painful, and rarely of benefit. Frictions over the larynx and trachea, with a stimulating liniment, particularly one so mild as to allow of gentle and long-continued application, are much more useful; indeed, you will often find them of signal advantage in cases of sub-acute laryngitis, and sometimes of service in the more intractable chronic varieties. Weak sinapisms, frequently applied, are also useful, and less inconvenient than liniments.

There are many less important medicinal agents which I am in the habit of using: some of them you have seen me prescribe. These are chiefly the opiates and demulcents; although these medicines are regarded as mere palliatives, they are nevertheless highly important, and prevent the increase of the laryngeal affection. Nothing acts more injuriously upon the larynx, or is of more immediate injury to it, than frequent coughing,—and any simple remedy which can check the constant disposition to cough, is sometimes more than a palliative—it prevents that constant motion of the larynx which hastens the progress of incurable cases of laryngitis, and is a serious obstacle to the recovery of those which are less advanced. The opiates are advantageously combined with ipecacuanha. I greatly prefer the form of lozenge; a medicine which dissolves very slowly, acts more certainly and more completely relieves the distressing sensation of tickling about the entrance of the larynx. You may give a lozenge four or five times daily, containing from the twentieth to the twenty-fifth of a grain of sulphate of morphine, with gr. 1 4 to gr. ss. of ipecacuanha; to this I sometimes add a minute portion of antimony.

Whatever treatment you adopt in chronic laryngitis, you will soon find that in no disease is it more necessary to attend rigidly to those hygienic rules, which are here often so much overlooked. The larynx, from its structure and position, is extremely exposed to the causes of disease; and when its mucous coat is ulcerated, or its cartilages denuded, no cure can reasonably be anticipated, unless you protect the organ from the deleterious action of external causes, and keep it as nearly as possible in a state of rest. It is therefore a matter of absolute necessity to keep the patient as silent as possible, and to guard him from sudden changes of temperature. A damp, moist air, is often soothing to the larynx, and rather diminishes the tendency to cough; but if the air be damp, and at the same time chilly, as is the case when easterly winds prevail in this climate, patients with laryngitis nearly always suffer, and cough much more frequently than at milder seasons. A very dry, cold air, produces very variable effects; if the patient be extremely feeble, it is usually injurious, and proves directly debilitating; but if his strength be still retained, the influence of cold, dry air, is no otherwise injurious than as a direct irritant to the larynx. Extremes of heat are injurious

on other grounds,—a patient debilitated by the intense heat of summer always suffers from an increase of laryngeal symptoms—he is besides liable to profuse perspiration, which is suddenly checked by draughts of air. Now, from all these causes of disease, it will be your duty to protect the patient, more carefully, perhaps, when suffering from laryngitis, than any other disease; the extraordinary susceptibility of the larynx renders it difficult to restore it to the normal condition when seriously affected.

Silence should be enforced in all acute inflammations of the larynx; but in its chronic diseases, absolute silence is impracticable. All that we can do, is to direct the patient to speak as little as practicable, and to avoid all loud or prolonged exertion of the voice. When recovery takes place, you must permit your patient to return but slowly to his usual tone of voice and habits of speaking, otherwise he will be exposed to a continual recurrence of this most troublesome disorder.

Bronchitis. Bronchitis is an affection, which is rare during the summer months of the year. Most of the cases which occur in our wards are met with in the winter season; and they are generally engrafted on some other affection, for we have few instances of pure acute bronchitis in hospital practice. In its simple ordinary form, it is too slight a disease to require much attention, and in the large majority of cases is left to the unaided efforts of nature. Patients affected with phthisis will tell you, that they labored first under a bronchitis, which may have been ordinary or secondary. They usually suffer it to run on until it reaches a stage which compels them to seek for medical relief, and they then enter the hospital. Hence in hospital practice, we see only severe and grave cases, which, in many points of view, is advantageous in the study of disease.

We have a case now in the hospital, which is rather unusual: it is not perfectly pure bronchitis, for, as I have said, that is comparatively rare, but it is complicated only with slight pleurisy. The patient is extremely stupid, and we were therefore not able to gather from him much of his anterior history. He is a stout and strong man, a labourer, born in Ireland, entered the hospital the 24th of June. He had been in the out-wards of the house from the 15th of April till the 13th of June, when he went out of the house, and went to work at Havre de Grace. He had no cough of severity until he was hurt on the 21st of June by a bank of sand falling on his breast, and principally on the left side, which became immediately painful, and soon after he became oppressed; he was not bled. Two days after he came to Philadelphia on the rail road cars, without suffering much pain, and entered the hospital on the 23d; he has been subject to colds, but never had one of any severity. On the 24th, the day after his admission, his condition was the following:

Intellect extremely dull, and memory bad; face slightly œdematous under the eye-lids; feet not swollen, voice hoarse, cough loose and hoarse, appetite lost, slight pain in the left side of the breast, chiefly under the axilla; none in the right side; this pain is increased by breathing; dyspnœa caused by breathing and speaking; skin moist and cool; pulse eighty-four, quick and thrilling; respiration twenty; chest anteriorly full; percussion clear throughout anteriorly and posteriorly, but less marked on the left than on the right, and the left side not so full as the right; sonorous and mucous rhonchi on both sides, anteriorly respiration vesicular and slightly feeble; ordered

Mist. pectoral f 3 v.
Syrup scillar. f 3 i.
M. S. ℥ ss. q. h. secundâ.

June 25th.—Man much oppressed; face flushed; dorsal decubitus; loose mucous cough. Pain extending over the sternum, especially towards left

side ; pulse ninety-six, rather full and resisting ; tongue moist, a little whitish ; cephalalgia in the morning, and at night very severe, preventing sleep. Sonorous rhonchus extending throughout the whole of the chest ; mucous rhonchus in the lower third of the left side ; percussion at the base of the right side a little less clear than at the left ; the pain was in the right side, but the mucous rhonchus at the left. Venesection—tartarized antimony, two grains dissolved in a quart of flaxseed tea, to be taken during the day and night.

From the 25th to the 29th, the oppression and pain in the right side ceased completely ; the flush of the face disappeared. The patient was cupped upon the chest after the bleeding.

June 29th.—More oppressed ; sweating profuse on the 28th. No pain in the right side, which has not returned since the bleeding ; cough very loose ; soreness at the upper part of the sternum severe in coughing. Tongue moist ; appetite bad. Chill last evening. No palpitation. Pulse eighty-four, rather feeble, regular. Respiration twelve. Impulse of the heart clear ; both sounds clear, distinct, but distant. Anteriorly mucous rhonchus over the whole left side of the chest ; vesicular on the right where there was no rhonchus ; percussion posteriorly clear on both sides, nearly equal, a little in favour of the right ; abundant mucous rhonchus at the lower portion of the left side, with sibilant less marked ; no stools ; no nausea for the last twenty-four hours.

July 2d.—Sweating abundant ; pulse eighty-eight ; still loose mucous cough ; expectoration almost ceased ; tongue a little dry at the edges only ; one stool yesterday ; perspiration decidedly acid, but less so than that of a healthy individual. Abundant mucous rhonchus in the posterior part of the whole chest, particularly on the right side extending throughout, anteriorly respiration feeble throughout. On the 3d, still cough, but more loose ; less dyspnœa. Sweating abundant ; a little hoarseness ; pain only at the thorax ; urinates with difficulty and pain ; costive ; perspiration now alkaline ; sputa decidedly alkaline ; urine extremely acid ; appetite lost ; tongue moist ; pulse sixty-four, full and soft ; mucous rhonchus throughout posteriorly ; the tartarized antimony continued.

July 6th.—Expectoration muco-purulent, not numular ; skin cool ; pulse regular, moderately frequent ; on the left side anteriorly, the respiration is vesicular and pure ; sibilant rhonchus at the summit of the right side, with a little rudeness of repiration ; percussion clear. Balsam of copaiba gtt. v. four times a day.

July 7th.—Bad taste in the mouth ; strength feeble ; expectoration thick, yellow, and muco-purulent ; twenty drops of elixir vitriol four times a day.

July 9th.—Respiration vesicular throughout the left side ; traces of sibilant rhonchus only throughout the right side anteriorly ; moist and dry rhonchi abundant ; percussion sonorous ; sleep interrupted by the cough ; sweating profuse ; anorexia ; thirst ; two stools in twenty-four hours ; tongue a deep purple, but rather dry ; strength feeble ; pulse ninety-two ; saliva slightly acid, although patient has not taken the elixir of vitriol for four hours; perspiration also slightly acid ; treatment continued.

July 10th.—Perspiration and saliva slightly acid ; urine extremely acid ; took last night by mistake about twenty drops of copaiba ; elixir vitriol continued. The oppression continues ; anteriorly on the left side respiration clearer ; mucous, with some sibilant rhonchus on the right side.

July 11th.—Cough frequent ; sweating at night ; drowsiness throughout the day ; expectoration puriform, thick, running together ; twenty drops of laudanum at night.

July 18th.—Cough at night, less during the day ; skin cool ; pulse eighty-eight, feeble ; tongue red, smooth, and clear ; appetite bad ; sweating last night ; one stool in twenty-four hours ; pain under the right clavicle ; vesicular respiration ; imperfect sonorous rhonchus at the internal margin ; vesi-

cular simply inferiorly; on the left side fuller and more vesicular; no constant expiration; impulse of the heart increased; sounds clear, the second a little dull; percussion clear on both sides, less so on the right; posteriorly on the right side abundance of sonorous and sibilant rhonchi, rather feeble on the left. Dry cups no. viii. between the shoulders.

July 20th.—The following prescription was ordered:

℞. Copaiba ℥j.
Tr. Opii ℥ss.
Syr. Tolu ℥j.
Mucil. Acac. q. s., ut fiant ℥iv., S. ℥ss. q. h. sec. nocte.

This case, which affords us a very good, although not an uncomplicated example of bronchitis, will enable you to learn the signs of the disease, and the difficulties which sometimes arise from its complications with more grave, though less apparent disorders. The patient was quite well until he was injured by a fall of earth; from that time he began to cough, and at his entrance the bronchitis was fully developed. Now, this is by no means the usual mode of commencement for bronchitis; and if the patient had given a less connected account of his case, I should certainly regard his statement as very doubtful. As it is, you may well hesitate before you admit entirely the account which he has given you; for his perceptions are dull, and he is therefore not capable of appreciating the slight degree of uneasiness which would arise from a previous chronic bronchitis. Of one thing, however, we are certain; that is, that the bronchitis assumed a character of much severity only after the occurrence of the accident, which the patient met with while at his work; the same external violence therefore gave rise to an inflammation of a serous and a mucous tissue.

The diagnostic characters of bronchitis are well illustrated by the present case; the rhonchi which are so well marked in the present case, and which vary from one moment to another, are, on the whole, the best signs of the disease. But you must not lay too much stress on these signs; you must remember the anatomical condition of the bronchial membrane, and keep in view the causes of the rhonchi. Now, in bronchitis, especially if the case be of moderate intensity, such as is offered by this patient, the membrane is throughout its whole extent more or less thickened and coated, with mucus of considerable tenacity. The thickening arises from congestion of the blood vessels of the membrane, and will be found to vary very much at different times of the day and in different portions of the membrane; hence the sounds will cease entirely, and be replaced by a respiration which is nearly natural, but more feeble than usual, for the mucous membrane is always sufficiently altered to prevent the respiration from returning to its full strength as long as any inflammation whatever remains. Hence I am disposed to lay more stress upon the feebleness of the respiration, particularly the irregular and varying feebleness, than upon the rhonchi. The feebleness of the respiration is of course most evident when complicated with emphysema; in the emphysematous portions of the lung there is a permanent cause for the feeble vesicular murmur; and they yield scarcely any sound, when the patient has an attack of acute bronchitis added to the chronic disease. You will find that persons affected with emphysema, are especially subject to bronchitis. Besides the feebleness of respiration, those of you who are good auscultators, and I am glad to say that several of my pupils deserve to be so called, must have perceived that the respiration has more or less of the character which I denominate rustling; that is, the inspiratory sound has lost, in a measure, its softness, and a rustling sound is heard during the passage of the air into the smaller tubes and vesicles. This is a very frequent sound in chronic bronchitis; it is also heard in the acute variety, if it happen to be accompanied with but little mucous secretion. By the rustling sound I do not mean the dry crepitant rhonchus, which is rarely heard in these cases, and is therefore an unimportant sign,—but I allude to a mere alteration in the tone of the respiration, no adventitious sound being produced.

You are well aware of the changes which occur in the rhonchi, these are in proportion to the quantity of the secretion into the bronchial tubes, and to the degree of the thickening of the membrane. Thus you observed in the present instance that the mucous rhonchus was well marked when the sputa became abundant; now, in cases of acute bronchitis, it is important to attend to this rhonchus, for when secretion has fairly taken place, you may regard your patient as decidely improved; but in chronic bronchitis, it is of less importance, except in cases where a chronic dry catarrh is replaced by an acute inflammation the mucous rhonchus then becomes a very good measure of the degree of severity of the acute disease, and from its gradual subsidence we can ascertain the precise progress made by the lungs in returning to their habitual state.

You may have remarked, that the oppression in this patient was much greater than the physical signs would seem to indicate. Now, when you find this state of things in bronchitis, you may look for its cause in one of two complications; that is, emphysema, or disease of the heart. Of course I exclude complications of an acute kind such as pneumonia, or severe pleurisy, for slight pleurisy, not more severe than that offered by this patient, does not constitute a very distressing complication. The signs of emphysema, I shall detail to you at another period; they are in part obscured by those of the bronchitis, but still a sufficient number of signs will remain for the diagnosis. The evidence of cardiac disease is rather more obscure; that is, of a moderate degree of enlargement of the heart, without either extensive valvular disease, or inflammation of the membranes. The means of diagnosis are in a great degree within your reach, but it requires much tact and some experience. In the present instance you will scarcely find demonstrable signs of heart disease; at least these are limited to a slight degree of dulness at the bronchial region, and a little confusion of the sounds of the heart: by this expression I mean that the sounds of the heart have not their usual clearness and fulness, although they are not positively so different from the ordinary standard as to be called morbid. The impulse is besides too diffused, and not sufficiently sharp; not limited to the point of the heart; it is, however, at least as forcible as in the natural state. Now, these signs, which I merely allude to, at present, without expecting you fully to appreciate their value, indicate a distension of the heart with blood, causing a laboured and slow contraction, and sometimes terminating by the formation of fibrinous coagula in the right ventricle and auricle. In more favorable cases, this distension of the heart is of little immediate danger, but may lay the foundation for future hypertrophy and dilatation.

Having now pointed out the signs which are important for the diagnosis of this case, I have but a few words to say as to its prognosis; it is almost necessarily favourable, for the complications do not threaten any immediate danger; and the patient, from his age and constitution, is nearly exempt from pulmonary phthisis, which is apt to follow chronic catarrh, in the patients who have any predisposition to the formation of tubercles from hereditary or other causes. I shall insist upon the relations between phthisis and bronchitis, and point out their distinctive characters in another part of the course.

The treatment consisted, as you know, chiefly in venesection, cupping, and tartarized antimony, followed by the balsam of copaiba. The bleeding was particularly requisite in this case, from the full, plethoric condition of the patient, and his evident tendency to congestion of the heart and lungs. When the necessity for a remedy is as strong as in the present instance, you may expect to find that immediate relief will follow its employment. Accordingly, the patient was immediately relieved of his most troublesome symptoms, and especially of his extreme dyspnœa. I am not, however, an advocate for bleeding in ordinary cases of bronchitis; indeed, it often retards the cure,—for in all inflammatory diseases, but more especially those of a secreting mucous membrane, a certain degree of energy in the circulation is

necessary to bring about the natural termination of the disease. This termination always takes place by secretion from the inflamed surface, unless the inflammation be arrested so easily as to leave no thickening or congestion of the mucous coat. The disadvantage of bleeding is, that it does somewhat retard the process of secretion, if the bronchitis be not severe, or if the strength of the patient be not very robust; on the other hand, when the congestion is so considerable as to impede the circulation, we find it highly expedient to take blood from the arm. It removes the over large quantity of blood from the heart and lungs, allows these organs to perform their functions with comparative facility, and materially assists secretion. You have seen how materially this was promoted in the present instance, and that the patient was immediately relieved after bleeding. Cupping is less useful in bronchitis, than it is in either pneumonia or pleurisy; the relief is not proportionate to the quantity of blood taken. I use cups but rarely in acute bronchitis; I almost limit their use to those cases in which it is complicated with so considerable a degree of dyspnœa, that bleeding has failed to remove it.—They are, however, more useful in the chronic variety; they should then always be applied between the shoulders, a point where you may abstract more blood, and at the same time approach much more nearly to the bronchial tubes.

The tartarized antimony was also directed for this patient; it certainly reduced the force of the pulse, and was probably useful. You need not be startled when you hear me use the words, probably useful; I am most anxious to point out to you the best modes of treatment, and to insist most strongly upon the positive results obtained from treatment, either in the management or cure of disease; but when I do not perceive unequivocal benefit follow from a prescription, I feel myself bound not only not to conceal, but to call your attention to it. In the present instance, we can merely say that our patient improved a little while taking the antimony, uncombined with other remedies; but the medicine was not followed by the same quick resolution of the disease, as often occurs in cases of pneumonia, treated by this remedy. Nevertheless, antimony is, in general, one of our best and most certain remedies in the management of acute bronchitis.

Vegetable emetics are largely used in the treatment of bronchitis; they are most useful in the chronic varieties, or in the bronchitis of children. Squill, ipecacuaha, and nauseants of a more stimulating character, are all used. I shall speak of them in their appropriate place.

The patient is now using the balsam of copaiba, a most excellent article in sub-acute bronchitis. Of the various terebinthinate articles, none is so much used as this balsam; and where it is not resisted by the stomach, its action is more certain than that of any remedy of this class. It probably acts upon the same principle which renders stimulants effectual in the declining stage of most inflammations. It certainly is one of the most certain remedies we possess in the treatment of chronic bronchitis, especially those varieties in which the secretion from the bronchial tubes is much diminished. In the chronic mucous catarrh, its action is less certain, but often highly beneficial. Our patient will, in all probability, require no other treatment, as he is already fast approaching towards convalescence. Other modes will be appropriately mentioned, when I speak to you of the chronic forms of the disease.

Animal Magnetism.

This is a subject on which our own facts are few indeed, but as well wishers to truth, we purpose calling the attention of our readers to it. It were, in our opinion, better, had it been called *Animal Electricity*; and Galvanism, Galvanic electricity. Certain it is, however, that it is a subject much more worthy of scientific investigation than some others to which much of the attention of the ablest investigators has been zealously directed. The powerful shafts of ridicule, abuse and evil report, have indeed been sped at it in as deadly and inveterate a manner as if it had been a nonpareil in sin and uncleanness. But were these to be received in the place, and with the credit of demonstrable truth, what would be the lot of any man, when he frowns on the vices of the multitude; as that of intemperance, for example? or what that of the aspirant after fame, fortune and usefulness, when his successes begin to obscure the bright prospects of his competitors?* or what that of him who comes out from the world of sin, and walks in the commandments and ordinances of his Creator? It would, in many cases, at least, be that of banishment from the society, and the countenance of the wise and good, and of ruin irremediable. What ridicule and abuse have not been extended to the best of men, and even to the son of God himself? It follows therefore that ridicule and abuse are no arguments against any fact; nor is the mere unbelief of the wisest. We are not prepared to come forward with a declaration of belief in all the things which have been said of *animal magnetism*, for, like medicine and all other things, some of its friends have, in the fulness of their partiality and under the excitement of party zeal, and of the inflictions of ridicule and slander, caressed it almost to death. But in our researches after truth, and in our adoption of facts, as true, we have found it a prudent rule of action to receive facts when given on such authority as we cannot, on a fair and impartial estimate, refuse to receive on any or every other subject. A man may dream, or imagine, or he may play the somnambule; but however unyielding his reverence for truth on other occasions, we are not called on for credence on these.

But when men who have been long before the world, and all their lives have but confirmed more and more, every confidence in their mental and moral sanity; and when, in opposition to

*Was it not said of the Father of American Medicine, our own Rush, that

'Times are ominous indeed
When quack to quack cries, purge and bleed!'

their own party opinions, and declaring themselves unbelievers, they come forward from their sense of common honesty to nature's truth, and declare facts calculated to favour their opponents, and make against their own party interests—when, we say, such men come before their own party-men, as members of the Royal Academy have done, and state that they are unbelievers in animal magnetism, but feeling bound to give the clear truth, whatever may be its bearing, state that they have with their own hands extirpated molar teeth, amputated female mammæ, &c. &c. without the least painful perception of the operation by the patient, we are obliged to believe the fact alleged. The truth is, that our difficulty in this matter is misplaced. Our minds have been misled by the idea of magnetism being attached to the human nature, and we have allowed ourselves to doubt, and dispute facts, which, as fair reasoners and philosophers, we had no right to do; when the difficulty was indeed only with regard to the manner of the production of these facts. We have, very unwisely, (because the principle cannot, must not, be carried out, in other matters,) allowed ourselves to deny truths, *merely* because we did not understand the laws by which they were revealed. They have appeared to be contrary to our ideas of the known laws of nature. Having set ourselves up as the very priests of nature, and concluding there were no other rules by which she performed her offices, but those we know, we have taken on ourselves the right of deciding that the fact could not exist, because contrary to the laws of nature! Who knows the laws of nature? Do you, reader? Do I? No. We may have learned by observation or otherwise some of them, as we may some few spots on the surface of the earth, or a few of the other world's which we behold delightfully, as brilliants in the firmament; but does it follow that there are no lands nor seas but those which we know?—or that there are not worlds beyond the utmost limits of our ocular sense, assisted by all the means of improving it, by taking advantage of the refractions and reflections of light? The truth is, that men dislike to own flatly that there are things in the world which they do not understand! It has been said, and surely with general correctness, at least, that all men desire to be thought better of in some respect than they really deserve; and that no man would be content with all his sins written on his forehead. Whilst this may be true—may be admitted as barely so, this fact will not be denied—that there are those, and they are generally the least gifted in intellect, who would have the world believe there was nothing left in nature which their intellect had not scanned and encompassed and mastered. Such are ashamed to acknowledge even a truth which is on evidence sufficient to make it as clear as the noon-day's sun in fair weather, because by so doing they would be forced to acknowledge their own ignorance of the

laws of nature concerned in its production. It has been well said that "the undevout astronomer is mad." We may say the same of the proud philosopher. If not mad, he who is puffed with this kind of leaven is as much out of place in the study of nature as dandyism would be in the Christian's closet.

The fact is, that true wisdom, like true piety, tends to teach one how small a portion of the Creator's wisdom he has in the one case as the other does how little of the purity of His Master he possesses—both leading directly to the spirit of teachableness of a little child.

Soi-disant philosophers thank their stars, or rather their schools or teachers, that they are not, as some other men, ready to believe a fact, without knowing whence or how it came; just as the proud pharisee did his God, for not being as the publican who felt and acknowledged himself a sinner before God. This phariseeism is as inadmissible, and as much opposed to truth and reason in philosophy in one case, as it is to genuine piety in the other: in both cases tending only to prove that pride, instead of teachableness and humility, possesses the mind and heart.

If somnambulism and clairvoyance are possible to human nature, and it is beyond dispute that they have occurred in the human system under certain morbid influences, they are but phenomena, and the successors of certain antecedents or causes; and the production of the same phenomena by the agency of men is nothing more than the simple fact, that man has learned to imitate by art, those effects which nature, by the operation of her own laws, without man's assistance, developes. Competent causes produce them, and what the difference, whether these causes are brought into operation by, or without the agency of man, except that man has learned so much of nature's ways as to design, and then execute, with like effect. Nor is all this more strange than that he should have reasoned out the fact that a western continent existed, that he should learn how to produce water by effecting a combination of its original elements, or that he should make the canvass or the bleak marble declare and perpetuate the history of men, or that he should reveal to the intellectual eye the abstruse principles of physiology and pathology, and operate on these principles, though ever hidden and intactible, with his remedial agents as with implements, and thus for a time, disarm sovereign death of his powerful and destructive weapons. Before the days of Franklin and of Richman, who thought of arresting the vivid lightning in its destructive flight and subjecting it to the use of children as a plaything? When phenomena so strange as the truths which are before the world on the subject of what has received the name of *animal magnetism* are presented, it becomes the solid student of nature to look well to them; and rather to *investigate their rationale*, than *deny the assertions of the most credible witnesses.*

We have said that, in producing at will the phenomena of somnambulism and clairvoyance, man has only learned to apply by art, causes, and by them, operate effects, which unassisted nature does. For some of nature's doings in this way we refer the reader to the authentic accounts of a goodly number of our northern professional brethren, for the facts of somnambulism and of clairvoyance arising in cases of disease under their own care—facts which he has no more right to dispute than he would the statement of a respectable physician of Charleston that black vomit had occurred in some case of fever during the present season. We have also learned from an unprofessional source, but not less to be depended on for that, the fact, that somnambulism and decided clairvoyance have been recently displayed, as the operation of disease on a female in a neighboring state, and that these phenomena were often repeated and with considerable regularity, for a length of time. We are satisfied that the facts of this case can be given on testimony which no southerner, at least, will pretend to deny, and we trust that this case will be reported, as it should be, at an early day. The lady has, we understand, entirely recovered her health, and is not conscious of any thing which passed on the occasions of her somnambulism; but having been told that the peculiar phenomena of her case excited much curiosity, is most absolute in not allowing her most intimate friends to say any thing to her on the subject.

In cases of this kind in philosophy, one of three courses has to be adopted: we must make a flat denial of the facts alleged, or pass them by in silence, or give loose to our investigating powers, in order, if possible, to develope the true philosophy of the case. The first of these courses is that generally adopted by those who are denominated "the unbelieving" on the subject of animal magnetism, so called. The second—it is not a little amusing to observe how silent philosophers generally, and physiologists particularly,* are on the subject of a lady in a northern state, who exhibited in her own person very strange and rare electrical phenomena for several months in succession following the aurora borcalis which appeared in the early part of the last year—a case, which, for its strange nature, is a very good parallel with clairvoyance. The third and only other cause is that which but few adopt; for it is considered hazardous, and is known to be troublesome to exert one's self for the support or explanation of phenomena so at variance with the common course of events and the *known* operations of moral or physical causes, as the phenomena of animal magnetism, and the electrical phenomena of the lady to whom we just alluded.

We have ever been of the opinion that the solution of the strange problem of animal magnetism would be found in the

*Except Professors Silliman and Mussey and Dr. Hosford.

laws of electricity, and in this opinion we have recently received support from some of the facts of M. Sousselier which we have noticed in the French manuscript to which we had occasion to refer in our last No. when writing on the subject of medical electricity. The following are some of his observations on this subject. After treating on the manner of applying electricity in the treatment of many diseases, M. Sousselier commences his ix. chapter, "on the manner of treating by touching," thus :—

Abbé Nollet, and several physicians and druggists, tried, about the year 1742, to treat patients and particularly paralytics, by electricity; but they only thought of the use of sparks and shocks. These wise men would soon have been undeceived, had they reflected that nature, which is continually working for our good, does not affect the body by sparks and shocks. They would then have studied the means of obtaining, dividing and distributing the electric matter at their will. When thunder strikes a person, it is a spark coming out of a cloud, and entering the earth, whilst the man intervening between the two is stunned. When a person draws a spark from the conductor, or is submitted to the electric bath, the volume of matter is not great enough to wound; but when he is exposed to the shock, it is the same matter accumulated in the leyden bottle in a large quantity, which passes from one arm to the other in its return to the earth. When this same force is applied to a quire of paper all the leaves will be pierced through. If you give the shock to the branch of some delicate plant, the branch will die a few days after.

Still I am aware that this abominable plan of treating epilepsy and other complaints, is continued in use. Numbers of unfortunate persons who are afflicted, seduced by recommendations, expose themselves to a miserable death in thus satisfying the cupidity of a man who ought not to be ignorant of the fact, that the matter which pierces a number of leaves of paper, also pierces through the breast. Let such a man keep a list of the persons he attends—let him look over it two years after, and if then he find one half alive, it will be a great deal, and he will be able to see in what condition the others will be. I know that the answer is that some persons are cured by thunder; a thing that is not impossible. It might have happened that the column of matter having passed through the body of the patient, had relieved, or even cured him; but I know a person of good constitution, having never had a pain in the breast, who every time he receives the shock, spits blood immediately after. Frequent shocks are calculated to destroy the best constitution.

As to M. Mesmer, having no relation in the capital by whom I could acquire any other knowledge of his operations, but by his views and purposes which were spread before the public, which often appeared opposed and contradictory to the principles I knew, I had no way of imitating his method but by knowing its effects. If they told me he gave a fever or a looseness, they added, he could cure the one or the other at his own desire. At length, however, a person of my acquaintance, on her return from Paris, came to visit me, and told me, that having suffered fever and pain, with spitting of blood, she was advised to take, for her physician, a scholar of M. Mesmer. This physician assuring her that her illness would not be of long duration, placed his hand upon her liver, where he held it about ten minutes; after which, he passed his thumb along her body, from the top of her head down to her feet; which operation he repeated about fifteen times; always turning his hand in another position each time.*

*We understand the writer to mean, that in returning the hand to the head after each pass, as it is called, the ends of the fingers and the thumb are turned off from the body. Ed.

This physician told her that she would perspire so much that she would wet three or four linens; after which, she could eat a pottage. He advised her to dissolve some cream of tartar in boiling water, and drink to her thirst.

This person certified to me that, after that operation she felt no more the pain in her side—that she had sweat a great deal--had eaten the pottage, and the next day was clear of the fever. She kept her room, however, and continued drinking the solution of the cream of tartar.

M. Sousselier, pleased with this effect of Mesmer's medication, adopted the following plan to discover its nature and the manner of using it:

M. Mesmer announced that the agent which he made use of could be reflected by looking-glasses. I knew that some persons had experienced some peculiar sensations on having an iron rod, a stick, or a sword, placed near the body, whether touched by it or not, and that others again had felt nothing. I rightly imagined that the *sparkling* electric matter was not suited for these trials; I therefore made a small resinous cake of electrophore upon a piece of wood, four inches in diameter, and a little more than an inch in thickness. I prepared a small pointed iron rod, and had made a pair of silk socks. Some days after, I put on my socks and silk stockings over them--put my little rod in my pocket and charged my resin cake, which I wrapped five or six times with silk stuff. In this situation I put it in my bosom, with the bottom turned towards my body, so that I could remove the stuff on the side next the skin, that I might receive the matter and be able to communicate it. Thus prepared, I went into the parlour, where there was a young man about twenty years of age, in good health, and apparently, a strong constitution. I begged him to stand up before a glass, with his face at the distance of about fifteen inches. I requested him to fix his eye on the glass, as I wished to direct a rod opposite his right eye in the glass. I then took the small rod, and directed it exactly towards the right eye in the glass. I then asked him if he felt any thing in his right eye: he answered that he felt a coldness which he did not in the other. After four or five minutes, seeing the coldness did not increase nor diminish, I caused him to stand off some paces, and standing up, I presented the point of the rod near his body. On moving it in various directions, it was not long before he told me that it seemed to him that he had dust in his mouth, which filled up more and more. I kept him in that situation six minutes; and fearing that I should make him suffer, I told him to set down; which he had no sooner done than he told me, with an air of impatience, to "take away the harm I had given him"—that "he could neither spit or blow his nose." I told him he had nothing to fear, for in a quarter of an hour he would not suffer, which was the case. A few days after, I proposed another experiment, but he refused to undergo it.

The little cool wind he felt in his right eye, was the same matter with which I was impregnated, and which escaped to him by the point of the rod. This goes through the glass but slowly, and is thrown back by the mercury upon which it has no known effect.*

A young girl whom I had attended and cured of a convulsive hiccough, had suffered a return of that troublesome disease a year after. She returned to my treatment which did not appear to produce the desired effect. I caused her, with her mother, who came with her, to spend a day in my wife's apartment, with a physician who was near me. I prepared myself in the manner before mentioned, and then rejoined the company; when I caused her to stand up in the middle of the floor. I removed the silk without being

*This passage seems to shew the writer's ignorance of electrics and non-electrics.

perceived, in order to place myself in communication with the bottom of the resinous cake. In that situation, I put my hand upon her stomach without questioning her. It was not long before she told me that I made her suffer a great deal in the stomach. I asked her if the pain was so acute that she could not bear it still for some time? She replied that, if it increased any more, she could not stand up. I then withdrew my hand and made use of my rod, by passing the point at the distance of an inch, from the forehead down to the lower part of her legs, and repeated the same process, taking care to turn the point of the rod in another direction as I brought it back to the head. I had not repeated this operation the third time before she told me she could name to me, with her eyes shut, every part where I presented my rod—that she felt it every where, but more particularly at the stomach, where the pain was more acute. I took this patient in preference for this experiment, because I knew her nerves were very sensitive.

M. Sousselier next gives the case of his own son, laboring under what he called "fever and putrid looseness;" which was as follows:

My son, sixteen years of age, was taken sick in the month of April, 1783. The fever was violent, and attended with great weariness and entire weakness. As the measles were then prevailing in the part of the country where I lived, I thought it best to advise no remedy. The physician who attended was of the same opinion. But a putrid looseness came on, which increased daily. On the seventh day of his disease, his pulse was so bad and his sense of fatigue so great, that I judged that danger was near. The physician proposed to me to purge the patient, which I refused to do—telling him at the same time, that I would attend him in my own way: but that, in order to a better judgment on the effect of the treatment upon a disease of this kind, I would not commence until the next morning.

Early on the morning of the next day, on entering his room, I found that he had passed a very bad night, without any change of his pulse. Prepared as before mentioned, I put my hand upon his liver for ten minutes, and passed my rod about a dozen times from his head to his feet, in the course of the day, but perceived no change whatever, in the disease. The next day I repeated the same thing; and in the evening found his pulse better, and a moisture on his skin, which never was the case before. From this moment, I received the greatest hope. The third day I continued my own method; and by night, the perspiration was restored and the looseness considerably dimidished. On the fourth day, it ceased almost entirely and the fever was nearly subdued. On the fifth, his appetite returned and he became convalescent, when I discontinued my services. But being taken, three days after, with an indigestion and violent fever, I repeated my proceeding—three or four days after which, the child was cured.

The next, and last case of this practice of M. Sousselier, which we shall give, is one of rheumatism:

I went to the house of one of my relations, (says M. S.) who was attacked with rheumatism, which was so severe as to confine him to his bed, without sleep or rest. This relation did not at all believe in magnetism, but consented to my offer of my own powers. After having touched him ten minutes, he was somewhat relieved. The next day the patient told me that he had slept well and suffered less. I repeated the course. On the third day he arose, suffering very little. I touched him again; and on the fourth day he walked out, in good health.

It was from these experiments that M. Sousselier, believing the effects wrought were by the power of electricity, invented "the box," a description of which was given in our last number.

It is evident, we think, if reliance may be placed on the statements of M. Sousselier, (or the manuscript, which we believe to be the minutes of a gentleman of that name,) that electricity is imparted in the common process of magnetising, as it is called. Considering, however, the many circumstances attending the operations of animal electricity, many things are to be considered in explaining all the *real* phenomena of animal magnetism to which M. S. appears to have been an entire stranger. For example, he appears to be entirely ignorant of the fact of the generation, or rather the de-latentizing of electricity in the animal system; a fact which the writer of the present article feels, stands on an immovable basis, and is constantly and easily demonstrable. This ignorance caused him, in addition to insulating his body with silk stockings and thick silk socks, to charge or rather excite an electric, and place it in communication with his body, under the belief that this would, and did, impart to him the extraordinary charge with which he operated. Had he understood the fact of human or animal origin of sensible electricity, he would have been led to observe that the insulation alone, in suitable weather and circumstances, would have sufficed to impart to him all the powers he really had under the application of the electric; for we well know that this electric, placed in contact with his skin, could not continue to generate new and successive supplies, but imparted its whole charge at the first moment of contact; and this again, was equalized with other things on the first touch of the insulated body. But we may conceive the fact very different, when we consider that, as really as in the Silurus Electricus, the human body has within itself all the apparatus necessary for the developement of sensible electricity necessary for all the common, and even extraordinary electrical powers or phenomena which the system presents, whether physiological or pathological; it is easy to conceive that successive powers may as well be offered as successive sparks from a prime conductor: and this is evidently the case in those rapidly successive contractile efforts which make up the common sensible action of a muscle, or common muscular movements. Looking into this doctrine, and contemplating the various structures and temperaments of different human beings, and their various conditions in life, we find that the electric power of these differing individuals, must differ essentially; hence the greater magnetizing powers of some, than others. Nor would it be straining the known laws of electricity too far to suppose that, as this fluid ever tends to equilibrium, and as the electricity in one body often influences that of another, and as the influence of the mind on the organism is sufficient to influence the electrical phenomena presented in the same, so different phenomena may be induced in different individuals by the same extraneous influence; or by the same internal extraordinary impulse, as in the opera-

tion of the magnetizer in the production of clairvoyance, &c. in some and not in others ; and the same phenomena resulting from morbid action or condition. We should be pleased to see M. Sousselier's experiments repeated on his own plan, and also with the application of the electric cake or plate to the body.

If there be truth to any extent, in the phenomena said to occur under either the operations of Mesmer and his followers, or Sousselier, which may influence disease in a salutary manner, or even mitigate the severity of capital operations of any kind, medical philosophers are culpably negligent of duty in failing to know the fact, and to avail themselves of its benefits. We shall be pleased to receive any well authenticated facts affirmative of the truth of such power. Negative facts could not always be so satisfactory, not because of any partiality on the subject which we would favor, but because, judging from our opinion of the differing peculiarities of the human subject, experiments failing to produce the results searched for, could not be conclusive, as different individuals differ immensely in their natural electrical powers. This is evident in the different opposing temperaments, as the sanguine and melancholic, &c. And still more—one well authenticated fact establishes more truth than ten thousand attempts which fail to produce the same can countervail.

In conclusion, we insert from the Lancet and, subsequently, the American Journal, the following facts from the pen of Dr. Sigmond, a gentleman whose observations and instruction in medical science are received by all ; whose judgment seems to be of the best cast, and whose statements of facts, no one will venture to question.

Animal Magnetism.—It would appear from our Journals that animal magnetism is making decided progress in London, and that some very distinguished men of that capital have become converts to a greater or less extent, to its verity.

It is to be hoped that now so many able men have their attention directed to the subject, that whatever modicum of truth there may be in this supposed power, will be established, and that the great amount of fallacy which is mixed with it will be fully and irrefragably exposed.

In the meantime the following extract, from a communication to the Editor of the Lancet on the subject, by Dr. Sigmond, will be read with interest :

"I entered the field of inquiry as a skeptic, and as such, after my inquiries, I remain, as to the belief that any individual is in possession of a power, save that which the strong mind exerts over the weak one, by which he can exercise a preternatural effect over the human frame. I totally disbelieve the existence of any fluid which can, at the will of an operator, be made to pass from his body into that of another, and thus, at his command, produce unwonted sensation.

"In the course, however, of my imitations of the operations I have seen performed by others, I have observed certain most singular phenomena to arise, with which I was previously unacquainted, and which, I think, are of some value; and which, by the cautious investigation of the highly intellectual men who are constantly seeking to add to the means of prolonging life, and rendering it happier, may yet be found to lead to some physiological and

psychological facts. I merely wish to state what I have observed, and to offer to show that certain consequences result from a peculiar kind of manipulation, which may easily be acquired, and which, if practised with dexterity, in some instances, might be productive of considerable influence in different conditions of the body.

"Some weeks since the Baron Du Potet de Sennevoy, did me the honor to invite me to be present at a trial of his magnetic power at the University College Hospital. I there saw him perform a series of actions upon different individuals, and he, in two instances, produced what may be termed artificial sleep upon two females, and this was the full extent of his success; his other attempts were failures. The successful cases, however, arrested my attention; they seemed to be the result of simple means, nor could there, at least I thought, be a doubt that the same power existed in any individual who chose to exert it. This species of magnetism, I must observe, differed very materially from what I had seen practised many years since by a pupil of Dr. Maineduc, at Bath; it had less pretension, and was much more practicable. From the little opportunity I had of judging of the Baron Du Potet, I drew the conclusion in my own mind, that he felt an honest conviction that he was possessed of a peculiar faculty, and most distinctly do I acquit him of any intention of playing upon the credulity of those by whom he was surrounded; but I feel that I have a right, with the same candour, to say, that I do not think that he is aware how he produces the extraordinary effects that followed his manipulations.

"I immediately determined to investigate the subject, and for that purpose tried a great number of experiments; but I was most unwilling, for a great length of time, to make my observations at all public, because I thought that I might be accused of seeking notoriety by investigating a subject which rather belonged to the community than to the profession, and one which seemed to be addressed to the popular feeling so easily excited, rather than to the calm and dispassionate consideration of the followers of science.—Finding, however, that two distinguished members of the profession, Dr. Elliotson, and Mr. Mayo, thought the subject worthy their attention, I persevered in my observations; and, added to this, I was invited by an illustrious individual, whose regard for the medical profession, and for every thing connected with it, I have, from my official position, had opportunities of witnessing and admiring, Earl Stanhope not only attended the Baron in his visits to the hospital, but devoted the energies of his highly cultivated mind to an examination of the merits of the system, and he did me the honor to express his wish that I should prosecute the labours I had commenced. As a lecturer, too, I thought this a subject intimately connected with therapeutic powers, and as, by the publicity of your Journal, I am standing before the profession, I have felt that I am not intruding myself by giving the result of my experiments. These have been performed, of course, with the full certainty that I possessed no peculiar power which could be productive of any effect that might not attend upon the exertions of any other individual. The extent of my examination has been such as to satisfy me that I can produce a sleep of a very unusual character, by certain manipulations which do not require me to be in actual contact with the person upon whom the operation is intended to be performed; that I have acquired a certain degree of experience, by which I know how to accommodate the manipulations for the purpose required; and that I can communicate to another individual, in a short space of time, all the information necessary for the production of this sleep.

"I commenced my series of experiments by imitating the actions of the Baron Du Potet. My first subjects were of the uneducated class; but I found them so prone to believe in the marvellous—so anxious for extraordinary results, that they deceived both themselves and me. I have since tried the same manipulations upon the higher classes, and though I find them

much more sensitive to every impression, and their nervous system more easily acted upon, and although occasionally, the imagination has led some of them away, yet I have succeeded in giving a very peculiar sleep, amounting almost to stupor, to a vast number of individuals. I have constantly found females much more susceptible of the influence than men; nor does it produce upon them all precisely the same state of sleep. For while in some it is a sort of trance, during which, as often occurs in that unnatural state, pain is scarcely felt, in others it produces hysteria, convulsions, and I have likewise known fainting occur. The most remarkable case that has fallen under my observation, and which, while it excited in me great anxiety and the deepest interest, has taught me to prosecute my researches with extreme caution, has occurred to me within the last two days. I was enjoying the hospitality of a most amiable family in Fitzroy-square, when animal magnetism became the topic of conversation, and I related the trials I had already made. One of the young ladies proposed to become the subject of experiment, to which I very willingly assented; for, having on former occasions attended her during momentary sickness, I was fully aware of the natural strength of her constitution, and the absence of that nervous temperament which renders this system totally inapplicable. I began what are technically called "the passes." They, as is not unusual, excited laughter and incredulity. I proceeded, for about five minutes, and then stopped and inquired if any sensation was produced, and the answer was, "a slight sleepiness;" and ridicule was again thrown upon the subject. I recommenced the manipulations; I observed the eyelids falling, and at last they closed; but, as the same incredulous smile remained, I persevered for three or four minutes, when I, almost doubting whether any influence had been produced, inquired what the feelings were; to this no answer was returned. I found my young friend was in the most complete trance I had ever yet witnessed as the result of my magnetism. The stupor was most profound; and I then tried the usual means to arouse her, but they were vainly exercised. After a few minutes I found the hands become icy-cold, the face lost its natural hue, and became perfectly pallid; the extremities became quite cold; the respiration was imperceptible; the stimulus of light did not affect the eye; on speaking to her a faint smile was excited, and a quivering of the lower jaw, which seemed to indicate a wish but an incapability of answering; the pulse became gradually feebler, whilst the external appearance altogether bore such a decidedly deathly cast that naturally some apprehension was excited amongst her family, by whom she was surrounded. Of course I could not but feel a certain degree of anxiety and regret that I had produced such a state, and much uneasiness at the thought that I had inflicted a moment's alarm to my kind friends. These feelings were however, less acute, from the full knowledge I entertained that the family had long reposed the most perfect confidence in me, and that no member of it had that nervous susceptibility, which would have embarrassed me had any untoward accident presented itself.

"I placed the perfectly unconscious subject of this distressing scene in a horizontal position, and directed the application of warmth and of friction to the extremities. Circulation and animal heat were gradually excited, but she presented a most singular appearance of suspended animation. In this condition she remained more than four hours, for I had commenced a little after ten in the evening, and it was about half-past two, that, on some slight effort being made to rouse her, she uttered some of the most piercing shrieks I have ever heard; there were convulsive efforts to raise the limbs; the face, too, became convulsed; she opened her eyes and stared wildly around; she was placed in the upright posture, and seemed sensible. Advantage was taken of this circumstance to carry her to her apartment; before, however, she could reach it, she fell into a profound slumber, but its character was more natural. She was placed in her bed, appearing perfectly compo-

sed; the countenance had acquired its natural hue; the respiration was perfectly easy, and the pulse natural. In this state she remained during the whole of the day, until 9 o'clock in the evening, once only opening her eyes, and addressing a few words to an anxious and affectionate sister who never left her side. In the evening the young lady joined her family perfectly restored to her wonted cheerfulness. She expressed no complaint whatever. She stated that the feelings that first came over her were those of extreme quiet and repose,—a species of ecstacy—a gradual languor seemed to steal over her; that she heard something passing around her; felt an inclination, but an utter impossibility, to reply. The first waking up she, however, described as almost terrific. It was as if she was bursting from a narrow and confined space, and as if she arose from interminable darkness. The lesson that I have thus learnt will not be lost upon me.

"It is upon the respiration that my efforts are directed, and the principle is percisely that which is called "stealing the breath away," besides which by the undulations of the air caused by the movements of the hands an unusual cold is produced which very much assists the effect. The art seems to me to consist in obliging the individual again to inspire, by the nostrils, the carbon he has already expired, whilst the currents of air caused by the extended fingers produce some effect upon the facial nerves, thus inducing the eyelids to fall down. Association of ideas is very strikingly evidenced by those who have been once magnetised, for then the slightest quantity of manipulation is necessary; the patient evidently having acquired a habit of inhalation by the nostrils. It is from the centre of the nose downwards that the effect is most speedily induced, and that the drawing of the hand downwards from the brow, so as to effect the eyes, I find to be quite unnecessary towards producing the effect. I do not consider the process I have employed by any means perfect; and I have little doubt, when the attention of the profession is drawn to the subject, that considerable improvement may result; at the same time I am persuaded that the manipulations may be the cause of very great alarm. I have now exercised this art upon nearly a hundred persons, and with very general success in the fairer part of creation; I have quieted delirium and given sleep where it has been for many nights vainly solicited. I have magnetised in the presence of many medical men who have been in attendance on the Baron Du Potet's lectures, and they have declared that the sleep appears identical with that he produces, and that it is proved by the fact that animals may be sent to sleep by the same movements. I am very anxious that the members of the profession should try the same process."

Part III.—MONTHLY PERISCOPE.

Successful operation for permanent adduction of the Thigh.—On page 671, vol. II. of this Journal, in giving the account of M. Lutens' operation for retraction of the leg, we mentioned that a case of similar nature had been recently presented to the Professor of Surgery in the Medical College of Georgia—that he had determined on making a section of the disorganized flexor longus femoris, which was the cause of the functional impairment; and that the patient was then in preparation for the operation. This patient recently returned to the city, prepared for the operation, which was performed by Dr. Eve on the forenoon of Tuesday the 9th (Oct.) inst. To-day, (15th Oct.) availing ourself of the politeness of Dr. Eve, we saw the case at the first entire dressing, full six days after the operation, and had the pleasure of witnessing a complete adhesion, except some part of the superficial integuments; with restoration of free abduction of the thigh—restoration of the proper length of the limb, which. by the fixed inflexion of the thigh on the lower part of the pelvis, as we had before witnessed, was more than an inch shorter than the healthy side, when extended together; and a partial, but improving restoration of the rotary motion of the limb. Animal ligatures were used in this operation on two small vessels, but have not in the least interrupted the adhesive process. Nothing now remains of the wound but the cicatrization of a part of the superficial integuments, which will be completed within a day or two. Thus has the operation proved not only perfectly safe, but successful. Nothing short of new disease, or extreme imprudence of the patient, can cause ultimate ill success. We found the patient to-day, out of bed, and occupying a chair with perfect ease.

We hope soon to favor the profession with the details of this very interesting case, from the pen of the operator.

The following facts were communicated to the Editor by Paul F. Eve, M. D., &c.

Spontaneous Rupture of the Uterus during delivery.—On the 27th of last July, I was requested by my friend Dr. Burt of Edgefield district, S. C., to meet him in consultation at Mr. D.'s, 18 miles from Augusta. On arriving there at 1 o'clock, P. M., I learnt that a stout well made negro woman, aged about twenty-one years, had been several hours in labor. The doctor having been called to another patient, had left her at day-light. The

old woman in attendance, stated that an arm of the child had been down, with the hand out, for some hours—that the labour pains had been very strong until about sun-rise, since which time they had ceased, and the patient was easier. I found her with sick stomach and occasional vomiting of bile, pulse very frequent and feeble, and the abdomen tender to the slightest touch.

Upon touching, I felt a hand of the child with the cord in the vagina, which receding upon the slightest effort at introduction, was followed by my hand into a very relaxed cavity. Feeling the edge of the ruptured womb, I took it at first for the placenta, but on following the child with my hand, I was soon undeceived. There was no pulsation in the umbilical cord. I brought down the feet and by turning completed the delivery—the only impediment to it being the re-passage of the child's head through the rupture, into the vagina. The placenta was found in the fundus of the womb and easily removed. I again introduced my hand to be assured of the exact nature of the case before me, and distinctly traced the rupture, which was transverse and just above the os tincæ. Dr. Burt having arrived during the delivery of the child, I was anxious he should examine the patient, but from her exhausted state and unwillingness to submit, he in kindness desisted.

There were no marks of violence upon the arm or hand of the child, and nothing had been given to increase labor pains. There were no disproportions between the head of the child and the pelvis of the mother. The patient had had three living children, and the child now delivered was of the ordinary size, or perhaps a little larger. weighing about eight pounds. The only difficulty in the case was the presentation of an arm and an umbilical cord. From this cause then, the uterus was ruptured.—Our unfortunate patient died in 24 hours after delivery.

We hasten to correct the errors of carelessness, or of translation, contained in the following notice of Dr. Physick, especially as we have some reason to apprehend that the notice taken by the Editor of the Gaz. Méd. de Paris was from the obituary contained in the 5th No. of the II. vol. of this Journal, to which we refer the reader.

"Necrology.—The *Dean of American Surgeons*, Dr. Physick, Professor in the College of *Georgia*, has just died at a very advanced age. Dr. Physick merited the title of the Father of American Surgery, of Dupuytren of America. The Medical Societies of the United States have resolved that all their members wear mourning for thirty days."

We have translated the above notice from the 25th No. Tom. vi. (June 23d, 1838,) of Gazette Médicale de Paris. This forcibly recalls to recollection the first time our Freneh brethren had occasion to refer to the name of the late illustrious American surgeon, Dr. Philip Syng Physiek—it was then published *Dr. Philip Syng, Physician* of Philadelphia.

We must inform our French brother, the Editor of the Médical Gazette of Paris. that Dr. Physick was never in Georgia, that we know of, and our Medical College was certainly never honored by his name among its professors.

A singular anomaly of the mammæ of a woman. presented to the Medico-Chirurgical Society of London. By Dr. Lee, Prof. of Obstetries in St. George Hospital.

A woman, aged 33 years, had just been delivered, before the full term of her first child. Her mammæ having beeome excessively painful and enlarged, she consulted Dr. Lee. Upon examining them, this praetitioner found *four mammæ*, instead of two, with as many nipples, two on each side. The inferior or pectoral mammæ are very well developed and normally situated —their nipples, their areolæ and their glands offer nothing peculiar. Near the anterior edge of the axilla of each side, and above those just deseribed, is another mammæ of one-sixth of their volume. The nipples of these two latter are small and flat, but give an abundance of milk upon the slightest pressure of the fingers—this fluid escaping by several small holes as in the common breast. In pressing the milk from the inferior mammæ, there flows at the same time a small quantity from the superior nipples, and when this fluid eseapes from the first, the others eonstantly swell and harden. The woman suckles her child alone by the inferior mammæ; the superior are not servicable, because of the smallness and flat state of their nipples.

After this fact, Mr. Stanley reported another analagous to it. A female entered St. Bartholomew Hospital to be disembarrassed of two inconvenient tumours which she had on each side of the axilla. Upon an examination, it was discovered that these two tumours were nothing else but two supernumerary mammæ without nipples; in the place of nipples there were orifices from whieh flowed an abundant quantity of milk. The woman nursed at this time; the child's mouth was applied to these mammæ, but it eou'd not take them on account of their smallness. The patient left the hospital without being subjected to any operation.

[*Gazette Mèdicale de Paris.*

Aneurisms in both popliteal regions; ligatures to the two femoral arteries; cured. By Gwynne Bird, Surgeon to the Swansea Infirmary.

David Philips, a porter, aged 38 years, very robust and a great drinker, was admitted the 3d Jan. 1837, to be treated for two aneurisms which he had, one in each ham. This disease declared itself two years ago in the right, and since only some weeks in the inferior extremity; at least, the attention of the patient was only directed to it at these periods. That in the right had rapidly increased lately.

Mr. Bird found in the right ham, a considerable tumour completely filling the popliteal space and even extending beyond it laterally. In the left ham, the tumour was less considerable and less firm, its volume being about the size of an orange. They both exhibited the ordinary characteristics of aneurisms.

Shortly after the patient entered the infirmary, the tumour of the right side made progress, threatening to become diffused and to burst. Mr. Bird requested a consultation, and an operation was decided upon by Messrs. Rowland and Cohen.

Operation.—The 7th Jan. the femoral artery was tied after the manner of Hunter. Every thing went on well; the ligature came away on the 13th day; the wound cicatrized; and the tumour was effaced.

The 7th of March Mr. Bird tied the femoral artery of the opposite limb, and the pulsations in the tumour were completely arrested; but two or three days afterwards they re-appeared, although a little less strong than at first. The ligature of this artery came away near the seventh week, preserving its ring made by the knot and proving that the vessel had been tied and obliterated at the place of the wound. The return of pulsation in the tumour could only consequently be explained by the intervention of some anastomosing branch communicating with the aneurismal sac. The wound cicatrized, but the tumour became as large as before the operation.

It was determined to wait before attempting another operation; the patient rose from his bed, walked pretty well, and finally left the hospital the 4th of May, with the promise to return from time to time, in order that his case might be watched. He gradually resumed his former occupation; the first tumour had entirely disappeared, and the other, instead of augmenting, remained at first stationary, then its volume and pulsations gradually diminished, and at last it has completely vanished.

On the 14th Jan. 1838, this individual after a careful examination, was declared radically cured.

From the above, the Editor of the Medical Gazette of Paris, remarks, that it can be said with truth, that the treatment of

aneurisms after the manner of Hunter, is one of the greatest triumphs of modern surgery. The two femoral arteries had already been tied with success in the same individual (V. Scarpa); so also the two carotids; but the case just reported claims our attention from another circumstance not less important—the return of pulsation in the tumour. Hardross, we believe, was the first to properly appreciate the return of blood in a ligated artery. Whatever may be the size of the anastomosing branch which communicates with the aneurismal sac, if the ligature to the arterial trunk retard the movements of the blood, it will suffice to effect a cure in the end. This retardation, in fact, provokes the successive deposition of layers of plastic lymph in the sac, and the tumours are gradually obliterated. This took place in the patient whose history we have just read.—*Gaz. Méd. de Paris.*

A new means of curing Intussusception in Infants.—Dr. Mitchell, who has had occasion to meet several times with cases of intussusception; in one of this nature, having tried all the usual remedies without success, had recourse to the following expedient:—He introduced into the rectum, as high as possible, a gum elastic catheter, then adapting the nose of a common bellows, he distended the intestine by a large quantity of air, which loosened the strictured portion of the digestive tube. The symptoms of strangulation disappeared as by enchantment, the bowels were freely opened and the child was cured. This, however, is the only case in which this means has been tried.

It must not be dissembled that great difficulties exist in the employment of this remedy in infants, on account of the equivocal state of the diagnosis. If it is true, however, that the vomiting of stercoracious matter, as Dupuytren has established, is a certain sign of intussusception, then we would be sufficiently authorised to employ the means proposed by Dr. Mitchell. It is but right besides, to recollect that the same mode has been recommended by O'Beirne (and before him, by Hauff, Busch and Kohler) against strangulated herniæ.

Tomato.—The editor of the Boston Medical and Surgical Journal has been gravely asked for his opinion upon the medicinal virtues of this plant, by a correspondent, who says "there seems to be a prevalent opinion that the tomato is the *matchless sanative*," &c. We hope this enquiry was not gravely made by any physician; for we think it quite bad enough for the common people, who are not willing to trust in the opinion and advice of men of medical science, to be gulled and hoaxed out of

their money and their lives, by gulping down every imposition which the thousands of imposters are daily pressing on their attention. "If I must tell you," said a travelling agent, when pressed by us, not long since, to know why he was so anxious to see certain druggists for whom he was in search,—"if I must tell you," said he, "I have eighty or an hundred of Jewett's physicks to put off on the people here, and I must do it, as I get a fat salary for my services, and I must be faithful to my employer." And accordingly, ten days had scarcely elapsed before almost every mantle-piece was burthened with bottles of Jewett's Liniments, for different purposes; and the rude composition of hog's lard, cayenne, &c. sold to the people, at something like seventy-five cents per ounce—a speculation nearly or quite equal to the sale of Thompson's Book of 37 1-2 cts. for $20. No great harm has been done by this, because it was an external application. We found a few persons. intelligent on other subjects, attempt its internal administration; but without much success in promoting its consumption in that way. It is now done, and we apprehend no agent will be seen travelling through these parts again for "putting off" that article.

We know not whether to consider it amusing or provoking—perhaps both, by turns, to see the cheat put upon the people on the subject of the *tomato.* For the character of the country, it is a great pity that there is no more common sense amongst the common people, on such a subject. A year or two ago, some of the "Reformers," as they call themselves—half brothers of Thomsonians, published in their little periodical, that the tomato was found to possess all the virtues—the medicinal virtues of calomel, without its ill tendencies. The editors of newspapers were stupid enough to catch this genteel touch of the reformers, and make a little more of it than was originally intended. The reformers *knew* it had no medicinal virtues, and *asserted* that calomel had none, and upon the very plain axiom that things which are equal to the same are equal to one another, made their assertion that the former possessed all the medicinal virtues of the latter. The unsoundness of their assertion relative to calomel not being examined, the tomato comes to be *asserted* to have the virtues which calomel is *known* to have. Seeing the turn this matter took with the people, some *guessing* spright, or some western reformer, essays to put forth the "tomato pill" to supply the place of calomel, without its ills, and medical men perhaps are induced to enquire, or rather request, that observations me made on the article "tomato," as a medicinal agent, and report the results. Now, we will venture to say, that this pill will take the round of these united States, before one tenth part of the people will remember that they themselves have all their lives lived on raw tomatos, tomato sauce, pickles and catsup, &c. in all quantities, without any other effects than those of a light,

trifling vegetable. Let citizens look and blush at their credulity —and let physicians who ask for observations and reports on its medicinal powers, draw themselves into a nut-shell, and finally disappear from the professional walks, as a "vanishing scene."

Rheumatism cured by Vapour Bath of Camphor Fumes.—A laboring man, 22 years of age, had long suffered from attacks of flying rheumatism, but, as the pains were not severe, he neglected to use any remedial means.

Exposure to wet and cold brought on a smart attack of the disease in its acute form; and for this he had to undergo a vigorous antiphlogistic treatment by general and local bleedings, blisterings, &c. The active symptoms were speedily subdued; but the patient continued to experience dull gnawing pains, increased by motion, sometimes in the loins, and at other times in the thighs and legs. Various means were used without much effect; and the physician was therefore induced to give a trial to the ingenious proposal of employing a vapour bath of camphor fumes, as recommended by M. Dupasquier in the *Revue Médicale* for 1826. The patient was made to sit on an open-seated stool, under which was placed a chafing-dish. A plate of iron was then put on this dish, and, the patient being enveloped in a blanket, a small spoonful of powdered camphor was thrown every five minutes, on the heated plate, until about half an ounce had been used. The vapour speedily induced a copious perspiration, and this was promoted by putting the patient into a warm bed, and giving him copious diluent drinks. The first, and even the second, fumigation did not produce any very decided relief; but by the fourth day (for the treatment was repeated daily) the pains were greatly abated, and the freedom of motion much increased. Considerable debility followed the employment of this medication; but by appropriate means the strength of the patient was speedily restored, and he remained free from his rheumatic pains.—*Jour. des. Con. Med. Chirurg.*

On Antimonial Suppositories as a means of restoring the Hemorrhoidal Flux. By Dr. A. Trousseau.—The physicians of past ages, have, perhaps, too much exaggerated the importance of hemorrhoids in the scale of pathological phenomena, while those of our own time are fallen into the contrary extreme.

It cannot be denied that the suppression of the hemorrhoidal flux, when habitual, may be productive of general disorders among men, almost as serious as the suppression of the menses in women. Moreover, it is as generally admitted, that with certain persons who have, not only regularly, but at indeterminate periods, a draining or hemorrhoidal flux, the existence of this pathological condition is attended with a state of general good health; although it may remain for a long time uncertain and variable, provided the hemorrhoids do not manifest themselves as soon as usual. Observation shows, also, that persons who have had hemorrhoids for a long time, suffer generally, if this flux entirely ceases. And it often happens that there is a call for its restoration.

Many means have been advised to effect this indication. The warm local baths, mustard foot baths, leeches to the part, suction applied to the lower part of the large intestines, purgatives and cupping glasses to the part. Of all the means which we have made use of, only one has succeeded in any satisfactory manner. This is the application of cupping-glasses. This

means was entirely forgotten, when a student of the Medical Faculty of Paris restored it to honor, and I am able to bear witness to its effects on him.

He had had hemorrhoids till the age of twenty years, and always enjoyed good health. This flux now ceased, when he became subject to violent pains in the stomaah, and continual disorders of the digestive organs. He consulted M. Andral, while attending the Hôspital de la Pitié, and this physician made use of every means advised by authors for restoring this flux. Nothing succeeded, and the disease remained stationary. The young patient then conceived the idea of applying a cupping glass to the part. During this application the circumference of the anus enveloped the hemorrhoidal tumours, which for eight days were swollen and painful. From this time his health was re-established. A month after this he experienced a slight return of gastric disorder; and one day, while attending my visit to the hospital, he spoke to me of the relief which he had obtained the previous month from the sufferings which he now began to feel again, and offered to let me witness the prompt appearance of the hemorrhoids under the operation of the cupping glass. I accepted the invitation with alacrity, and at the same time I placed him upon the bed of one of the patients, and in the presence of more than forty physicians and students I applied a cupping glass to the fundament. A minute did not elapse when the tumours made their appearance, and becoming united, they acquired the size of a small pigeon's egg ten minutes after the application of the instrument. The same means were made use of the following day, and the hemorrhoidal flux continued for a week, and was followed by a cessation of the disorders of the stomach. M. Andral also saw this young physician, and can testify with me to the great rapidity with which the tumours became swollen.

After this I had only one opportunity of locally applying cupping-glasses for recalling hemorrhoidal flux. This was with a female afflicted with erratic rheumatism, which to me appeared to be caused by the suppression of habitual hemorrhoidal flux. I succeeded in puffing up the hemorrhoidal vessels by means of the cupping-glass; but the tumours disappeared soon after the application of the instrument. What prevents my using this remedy more frequently is this: in the first place, patients, especially women, have a great aversion to it; secondly, I have conceived that a much more simple remedy, and the employment of which can never be the subject of serious objection, will answer the same end, I allude to antimonial suppositories.

As I had never succeeded with aloetic suppositories, I thought by substituting in the place of aloes one of the most energetic irritants I might attain the desired end. Now, tartrate of antimony, applied locally to the skin or mucous membrane, creates an inflammatory action very powerful and persisting, I therefore preferred this article. I mix with a drachm of butter or lard, from two to six grains of tartrate of antimony. The suppository, being introduced within the sphincter of the anus, melts quickly, and the tartrate of antimony remaining in contact with the mucous membrane, excites a lively local irritation, a species of tenesmus, as a necessary consequence. When the suppository contains only a grain, or half a grain of the tartar, it can be retained for twelve hours without the necessity of going to stool; but when a greater quantity of it is made use of, the patient experiences a heat, at first slight, but afterwards scorching, and attended with painful pulsations at the part; there is a necessity of frequently going to stool. The arterial pulsations increase at the same time that the circumference of the anus protrudes, and pustules, similar to those excited by tartar emetic on the skin, now appear; bluish tumours arise, hard and painful, permitting occasionally a large quantity of blood to transude. These are the true hemorrhoidal tumours, perfectly evident with those who have had them already, and only apparent with those who have not had them.—*Journal des Connaissances Medico-Chirurgicales, Sept.* 1836.

Method of treating Intermittent Fevers, in the Infirmary of Clinical Medicine of the Surgical School of Lisbon. By Prof. Lima Leitao.—Ague is of very frequent occurrence among the laborers in the flooded or marshy grounds bordering on the Tagus. The following divisions comprise the varieties observed: 1st. intermittents proceeding from gastro duodenal phlogosis; 2nd. those arising from inflammation of the liver, of the spleen, or both conjointly; 3d. such as proceed from phlogosis embracing simultaneously, wholly or in part, the gastro-duodenal mucous lining, the liver, and the spleen; 4th. intermittents not arising from inflammation.

1. The symptoms of the cases referred to the first division are thus described. If, during the intermission, the following phenomena are observed —redness of the margin of the tongue, with a white or slightly yellow coating on its surface; more or less thirst; an obscure feeling of pain or weight in the epigastrium, even when pressure is not applied; a sense of heat in the urethra and rectum in passing urine and fæces; nausea, or vomiting of mucous or bilious matter; a pulse without being decidedly febrile, yet not that of health; then, according to the author, there exists inflammation of the mucous membrane of the stomach, duodenum, or both. This form of the disease Dr. L. has observed exclusively in persons of the sanguineous, or bilio-sanguineous temperament; of youthful and adult age; of a constitution not yet broken down, and in first attacks of ague. He does not remember to have observed it in the quartans of Portugal; but only in quotidians, and double and single tertians. For its cure he recommends, repose in bed; a diet of light broth; beverage lightly acid and edulcorated (*agridoce*) or mucilaginous, according to the taste of the patient, taken tepid; and emollient *enemata*. After the second paroxysm, or after twenty-four hours' repose in the hospital, whatsoever number of paroxysms besides the second may have occurred prior to the patient's admission there, leeches are applied to the epigastrium, followed by poultices. The number of leeches is proportioned to the age of the patient, twenty-four being the mean number. Dr. L. thinks the paroxysm the most suitable period for their application. Should the symptoms above described have disappeared in the apyrexia next ensuing, but should the paroxysm follow with the same or nearly the same intensity, a grain of the sulphate of quinine is given every three hours, every two hours or every hour (according to the type of the disease) during the intermission. After each dose of the medicine Dr. L. gives some mild mucilaginous or sugared beverage, and very little other sustenance is taken. It is important that the apyrexia be perfect, and that the indications of local affection have ceased before administering the sulphate of quinine, otherwise there is risk of converting the disease into the remittent or continued form.

Should the inflammation resist the first application of leeches, they must be repeated a second or even a third time, till it is removed. If the paroxysm does not recur after the application of the leeches, or if it be much diminished in intensity and later in coming on, no sulphate of quinine is administered; and, in the latter case, it is observed, that after one or two fits more and more slight, the disease ceases. The author thinks that convalescence is more speedy and relapse less liable to take place in these, as it were, spontaneous recoveries, than where the sulphate is employed.

2. In the second division, comprising cases in which the liver, the spleen, or both conjointly are affected, the author recognises the phlogosis of the liver (should there not be enlargement) by obtuse pain, heat, and tension, increased by pressure; yellow tinge of the face and eye; yellowish furred tongue; bilious vomitings and dejections, &c. When the liver is enlarged, the local symptoms are referred to the left lobe. If the spleen suffers, it presents analogous local symptoms; both organs are often simultaneously affected. The remedies of this form of the disease are the same as those of the preceding, with this difference, that general blood-letting is found

more serviceable than leeches, or, at least, should precede their employment. Two bleedings of eight ounces each are generally sufficient. Dr. L. has seen intermittents of this division and of all types, yield to depletion alone by general, followed by local blood-letting; and this successful result from depletion solely has been more manifest in the diseases of this than the preceding division.

3. The third division, comprising intermittents connected with inflammation of the gastro-duodenal lining, and of the liver and spleen conjointly, is marked by a combination of the symptoms of each of the preceding diseases. The malignant intermittents, observed by the author in eastern Africa, belonged to this class. The treatment consists of the methods employed for the other two divisions combined, that is bleeding, general and local, excepting in nervous temperaments, when he has recourse only to the latter. He thinks this kind of case very suitable for the endermic method of employing sulphate of quinine. In the malignant intermittents of eastern Africa, he derived much advantage from frictions of tincture of bark, and from sprinkling blistered surfaces with powdered bark and camphor.

4. The fourth division, consisting of cases unattended with local inflammation, he treats as he does those of the preceding, except that bleeding is omitted.

The author subsequently gives a practical commentary on the 59th aphorism of the 4th section of Hippocrates, "tertiana exacta in septem circuitibus ad summum judicatur." Having tried its truth, he found the patient, solely from the influence of low diet and repose, escape the seventh paroxysm in some cases and the eighth in others. The examples in which this fortunate result took place, belonged principally to his fourth division; but a proportion of them to his first, or that comprising the complications with gastro-duodenal inflammation. These spontaneous recoveries, wheresoever they occur, Dr. Leitao regards as the most favorable, the general health being the least disturbed, convalescence most prompt, and relapse very rare.—*B. and F. Med. Rev.* from *Journal da Sociedade das Sciencias de Lisbon*, Feb., April, 1836.

New method of curing Stammering.—Dr. Voisin was afflicted with an impediment in his speech, for the cure of which he tried every plan, but without success. Finally, chance led him to the discovery of a method which he has adopted with advantage. He was reading a paper before a society, and wishing to do so with some energy, he happened to look into a mirror which was opposite him, and he perceived that he rested the border of his right hand upon his chin, in a manner so as to depress the inferior maxilla and hold the mouth half open. The idea immediately suggested itself that this instinctive and mechanical movement might contribute to his reading more promptly and easily. In fact, upon ceasing the pressure, the difficulty of expression was quickly reproduced; but upon replacing his hand the freeness of articulation immediately returned. Endeavoring to give an account of this, he observed: 1st. That the mouth was kept half open, the distance between the teeth being a line or a line and a half. 2nd. That the tongue, abandoned to itself, in the state of repose placed itself against the inferior dental border, whilst during pronunciation it is projected forwards and upwards, but is withdrawn almost immediately behind the alveolar arch. 3d. That a medium pressure is necessary upon the chin; this should be sufficiently strong to resist the muscles which move the inferior maxilla, without impeding its movement of elevation, so strong as to prevent perfect approximation. To produce this pressure, and, at the same time, make it excusable, it is necessary to use a certain delicate art, so that the manœuvre may not appear forced, but on the contrary almost natural.

This pressure should be made with the external border of the right or left hand indiscriminately, the thumb applied upon the chin and the fingers free. Since he has made the discovery he finds he frequently takes the position without thinking of it, and has observed the same in other individual afflicted with impediment of speech. This habit does not appear to be peculiar to stammerers, since it is frequently assumed by timid persons when speaking in public. Dr. V. has only had an opportunity of trying it in two individuals, but the effect surpassed his expectations.—*B. and F. Med. Rev.* from *Bull. de l' Acad. Roy. de Méd*, Sept., 1837.

Treatment of Erysipelas by Raw Cotton.—The efficacy of cotton in the treatment of burns, and the analogy between the inflammation of the skin produced by heat, and of erysipelas, has led M. Reynaud to employ the cotton in the latter disease; and he has found the application equally beneficial. In erysipelas, as in burns, M. R. says, the cotton calms pain, as it were by a charm; a mild and moist warmth takes the place of the itching, the formication, the sharp and biting heat which so much increase the pain; the swelling gradually diminishes, the redness disappears, the skin becomes flaccid and wrinkled, and without becoming covered with those furfuraceous scales, which characterizes the termination of erysipelas, and which sometimes continue during a long period. All that separates are a few slight layers of epidermis, and this is speedily effected. The general excitement ceases with the local phenomena, the fever diminishes, and in simple cases the organic functions return to their normal state, without the necessity of any other treatment. A circumstance of great advantage in the use of cotton is, that it is equally fitted for, and produces analogous effects, in all forms of erysipelas, whether idiopathic or traumatic, whatever may be its situation, on the face, body, or limbs; whatever may be the depth of the tissues which are affected; for in the cases which are collected, are some of phlegmonous erysipelas greatly amended and others entirely arrested by the simple application of cotton. The result, M. Reynaud would thus explain,—that the cotton acts by exciting in the diseased part a moderate warmth, a sort of vapour bath which keeps up a constantly equable temperature, a proper degree of humidity, by keeping the diseased part from contact with air and light, two powerful excitants of the cutaneous system. Cotton does not suffice in all cases; no more than other remedies does it enable the surgeon to dispense with general means, but it lends to these a great assistance; it hastens the resolution, and when the termination cannot take place, it still serves to limit the inflammation, and to arrest its progress.

The method of applying the cotton is very simple. Raw cotton which is well carded must be selected, in order that it may be free from all foreign substances which it sometimes contains. A layer sufficiently thick to protect the diseased part from the light and air must then be applied, taking care always that the cotton extends some inches beyond the limits of the inflammation. A compress and a few turns of a bandage will keep the cotton applied. A linen mask is well fitted for the face. The cotton should be removed every twenty-four hours to judge of its effects, or, if there is no contra-indication, it may be allowed to remain during the whole course of the treatment. If the cotton should adhere too strongly to the skin, in a case where there is slight exudation, it may be removed by applying over it an emollient poultice. The author has added to the previous remarks, several cases of various forms of erysipelas treated with cotton; to which it is unnecessary to call the attention, otherwise than to state that seven are cases of simple erysipelas of the face and extremeties; that one is of traumatic erysipelas; the ninth of erysipelas complicated with a miliary eruption; four of phlegmonous and one of gangrenous erysipelas.—*Jour. des Connaiss. Med. Chirurg.*, Feb., 1837.

Causes which retard the consolidation of Fractures.—The *Archives Générales* for August, contains an interesting article on this subject, by M. Louis Fleury.—Two indications must be fulfilled, observes M. F., to insure the perfect consolidation of fractures: 1st Placing the broken ends in contact. 2nd. The maintaining them in this position. The former is done with facility, but there are some difficulties in accomplishing the latter. At the present day, most surgeons are of opinion that complete immobility of a fractured limb, joined to strong pressure on the soft parts, are the best means of maintaining the fragments in position, and of obtaining a quick and regular consolidation. Unfortunately, these means are frequently unsuccessful; and, notwithstanding the care used in their application, the callus is frequently thrown out in an irregular manner, or perhaps never formed at all. What, then, are the causes which prevent or retard the consolidation of a fracture? Authors have enumerated a great number, but seemed to have overlooked a very important one. Scrofulous and venereal affections, old age,—rents in the periosteum,—formations of pus,—cold applications,—all, undoubtedly, exercise a prejudicial influence. But, by far the most frequent of all the causes, is the apparatus used with the view of favoring the consolidation, which it prevents by the compression it exercises upon the vessels of the limb; whether this compression is inevitable, as in the moveable apparatus, or produced voluntarily by the surgeon.

If a fractured thigh be placed in a thick layer of soft materials, the effects of the compression cannot be very appreciable; for, in this case, although the capillary circulation and the small arterial branches are more or less restricted, still the large vessels continue free. The same does not occur in the forearm or leg, where compression, ever so slight, interrupts the course of the blood, not only in the superficial vessels, but also in those which supply the fractured bone and periosteum. In order to obtain a rapid and regular consolidation, we must be careful not to apply more splints than are absolutely necessary, and not to bind these too tight by means of bandages. In following an opposite method, we wait, sometimes three, four, or six months, for a union which has not yet commenced. It is then that the surgeon, eager at each dressing to reapply the apparatus, with more care, that is to say, to augment the number of splints, surrounds the limb more exactly, &c., finds himself deceived; and the more he renews his efforts, by the same means, the greater is the distance separating him from his object.

The following case, one of four reported, exemplifies the beneficial results of this practice.

Case. C. D., aged 41 years, had a fall on the 15th of February, 1836, broke his right leg, and entered the same day the Hospital of St. Louis. The fracture was complete, situated immediately above the internal malleolus, and complicated with a deep excoriation and extensive echymosis. The wound was dressed with cerate; the rest of the leg covered with charpie dipped in the white of egg, and the ordinary apparatus for fractures of the leg immediately applied. The member was maintained in absolute repose during six weeks. On the 10th of April, the apparatus was removed, the wound was found cicatrized; the ecchymosis had disappeared, but the consolidation had not commenced. The apparatus was reapplied, and a more generous diet ordered. On the 30th of April, the consolidation was a little more advanced. The splints and anterior cushions were then removed, and the limb sprinkled with spirits of camphor. From this period the callus rapidly solidified; by the end of the month of May, it was very resistant, almost inappreciable to the touch, and the patient quitted the hospital.

SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] DECEMBER, 1838. [No. 3

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

Successful Division of the Adductor Longus Femoris Muscle, for Deformity and consequent loss of motion in the Inferior Extremity. By PAUL F. EVE, M. D., Professor of Surgery in the Medical College of Georgia.

In the XI. No. of vol. II. page 671 of this Journal, the editor has been pleased to make the following remarks, concerning an operation, the result of which I now design presenting the profession—"We are happy in having it in our power to remark, that a few days previous to that on which the *Gazette Medicale* came to hand, which contained the following case and operation of M. Lutens, a case of similar nature was presented for the inspection of the Professor of Surgery in the Medical College of Georgia, Dr. P. F. Eve, who at once decided on an operation for extirpating the diseased and disorganized muscle, and his patient is now under preparation for the operation. The muscle affected in this case is the adductor longus femoris, causing an inconvenient and distressing adduction of the left lower extremity. The particulars of this case we hope to afford our readers in a future No. of this Journal. Dr. Eve has not yet seen the March No. of the Gazette Medicale." The operation is then

described as performed by M. Lutens, Surgeon to the hospital at Antwerp, upon a sailor, for retraction of the leg, the notice of which in the French Journal concludes, by stating that a similar operation has subsequently been executed with success by M. Duval, of Paris.

It was in the latter part of last May (1838), that the patient upon whom I have just operated, called upon me. The Editor of the Southern Medical and Surgical Journal has correctly stated, that I had not then seen a notice of the operation of M. Lutens. This case was published in one of the March Nos. of the Gazette Medicale de Paris, which did not reach here until June, a few days after it had been decided in consultation with Professors Antony and Newton, to operate on my patient. Dr. Newton, after our meeting, addressed me a note calling my attention to the No. of the French Journal just mentioned.—This was the first intimation I had of the case of M. Lutens.

The two cases, however, differ materially. In that of M. Lutens as well in the one of M. Duval, the Stromeyrean principle, (the division of a *tendon* to cure deformity and consequent loss of motion.) was simply acted upon; while in the case in which I operated, a *muscle* was divided. Again, they operated to remedy a defect of the leg; I for that of the thigh. Their operation was near the femero-tibial articulation; mine near the coxo-femoral.

The history of my patient previous to his application to me, is presented in the following letter—"From infancy to fourteen years of age, I was strong, active and remarkably healthy, and of good constitution. When fourteen, or about that period of life, I practised night-hunting to a great extent, and occasionally fishing; would sometimes lay on the wet ground, or remain on the bank of muddy creeks all night. In the month of February 1829, I felt one evening, an aching in the left side of my shin-bone, and a sharp ketch on the inside of my thigh, with acute pain whenever I moved off a high step. At night the contraction in my thigh became very violent, and the pain extended from the groin to the knee. The first two or three weeks of the attack, the suffering was so excruciating that it rendered me almost senseless. At the expiration of this time, the pain gradually moderated. I lay on my back with my legs drawn half up for four months, without my position being altered; after

which I was able to be turned on my right side with a pillow between my knees. At the end of six months the pains entirely subsided, but left me drawn up as before described. I was now lifted out of bed, and gradually improving, I ventured to use crutches. The contraction was such that for a long time I could apply only one-half of my left foot to the ground—it was about eighteen months before I walked at all without a stick.

"During the first year I was up, there came a small ulcer or sore, discharging bloody matter, just below the left buttock. I attributed it to my sitting so much.

"In the commencement of the attack, Dr. Alexander Jones, then of Lexington, Geo. was my physician. I have also applied a multiplicity of remedies to my thigh, but all to no purpose. I at length resolved to let nature take her course, and for the first five years I made considerable improvement, though it was always with great inconvenience, stiffness, soreness and pain, that I took exercise. For the last three years, I have been pretty much upon a stand; if any thing, getting worse.

"It has now been more than eight years, since this disease has been seated in my left hip or thigh, and have not been able for the time mentioned, to ride a horse half a day without great soreness and contraction of the limb affected, apparently shortened at times two or three inches. I have also not been able to walk half a mile without debility, and the least exercise would produce great suffering. I walk with my foot turned in, which increases more and more as I exercise.

Signed, ALLEN A. BEALL."

Oct. 21st, 1838.

On the 30th of May last, having procured a suitable place for my patient, I made a minute examination of his case. He had a considerable limp in walking, more especially when he commenced to walk, and invariably used a stick. He is a very muscular and robust man, aged 22. His left extremity was full one inch shorter than the other, nor when placed in the horizontal position, would traction reduce it much. Both the thigh and leg, are much smaller than the right. The foot was turned inwards, and the whole limb inclined in this direction. The foot could not be carried out farther, than about twelve inches from the median line of the body. There was a small depression and a round cicatrix near to the left ischium. In the internal and

upper third of the thigh there was *a hard substance*, feeling like a hempen rope situated just under the skin. It was about four inches long by one and a half broad. However relaxed the thigh might be made, this diseased mass still presented the same resisting, insensible, cartilagenous hardness. It could be isolated from the surrounding tissues, all of which appeared to be normal. It was taken for a fibrous degeneration of the adductor longus femoris muscle. The shortening of the limb was attributed to the permanent disorganization of this muscle, with the inclination of the pelvis from long habit. There was no symptom of disease in the hip-joint.

Before resorting to an operation, it was deemed prudent to place Mr. Beall upon a treatment, with the view of effecting some change, or of ascertaining something of the nature of his disease. This consisted chiefly in the use of warm bathing, heated vapour, and the most stimulating liniment, which were continued for about twenty days, without producing any appreciable benefit. Mr. B. then left for his home in the interior of Georgia, to make his arrangements for the operation which had at first been proposed to him.

He again called upon me early in October, and submitted to the operation the 9th of this month. Assisted by Professors Dugas and Newton, an incision was made, commencing at the pubis and cutting upon the internal edge of the affected mucle, and extending it about five inches, in a semi-lunar direction. The surface of the adductor longus was then exposed, and cautiously divided with the knife and a pair of scissors, about three inches below its origin from the pubis. The upper portion was found to be converted into a fibrous tissue, which slightly grated under the knife, but the portion below the section contracted, so as to separate the cut edges of the muscle about an inch. Its degeneration therefore, did not extend throughout its whole length, but the muscular tissue appeared to be healthy an inch below where it was divided in its course to be inserted into the os femoris. We removed from the upper portion a small section for a pathological specimen. Two small arteries required a ligature. The wound in the skin was closed by adhesive plaster, and a compress and roller completed the dressing. The patient was put to bed, and a two pound weight attached the next morning to the left foot, and allowed to hang out of the bed-

clothes over the back of a chair, so as to make traction in a horizontal direction.

There was no material alteration in the length of the limb until the next day, when it commenced gradually elongating, so that when dressed on the fourth day after the operation, the difference between the two lower extremities did not exceed a quarter of an inch. At the end of a week, even this difference had disappeared, and Mr. Beall commenced using the limb. His friends Dr. Wm. Butts of Warrenton, and Dr. Joel Branham of Eatonton, visiting him during the second week of his confinement, and did not remark any difference in the length of the two extremities. On the 15th day after the operation, my patient was out in the streets walking about, with scarcely any impediment; and on the 28th of Oct. the 19th day since the division of the muscle, he returned home on the Georgia rail road.

The left inferior extremity has not only been restored to its original length, but all its motions have been so far regained that the patient, before his departure from the city, could turn the foot and carry the leg and thigh outward to nearly the same extent and with almost as much freedom, as on the sound side; he was daily improving in these respects, and is in a fair way of realizing from the operation all the benefits that had been proposed.

Supposing the disease for which the operation was performed in this case, to have been the result of acute rheumatism, may not similar cases be relieved by *surgical*, in addition to medicinal treatment.

ARTICLE II.

An Essay on the relation between the Respiratory and Circulating Functions. By CHARLES HOOKER, M. D. Read at the Annual New Haven County Meeting of the Connecticut Medical Society, April 12, 1838. Republished from the Boston Medical and Surgical Journal.

The above is the title of a pamphlet of forty-seven pages, which we have had the satisfaction of receiving from the author. We had observed the same in course of publication in the weekly numbers of the Boston Journal, but notwithstanding the great interest we felt in this hitherto too much neglected subject, we lost the value of the essay by the lapse of a week between every few pages. On reading the whole pamphlet through, at once, however, we find the subject so amply treated, and rendered so practically important, that we feel unwilling to give a *mere* notice, or analysis of it; we therefore present it entire to our readers, believing that our pages could not be more usefully employed. We urge on them the importance of reading *the whole essay at one sitting*, as we are confident no one will have occasion to regret the hour thus appropriated.

The general relation between the respiratory and circulating functions has long been known. It is unquestioned that the main office of the lungs is to effect that change in the blood which constitutes the difference between venous and arterial blood; and that the sole office of the right side of the heart is to transmit the blood to the lungs for the purpose of this change. This process has been called *oxygenation*, *decarbonization*, &c. according to different theories by which it is explained; also *arterialization*, a term implying no theory, but simply the fact that the blood is thus prepared for circulation through the arteries; an *aeration*, which simply implies that this change is effected by an exposure of the blood to air in the lungs.

RELATIVE FREQUENCY OF THE RESPIRATION AND THE PULSE.

From what is known of the philosophy of the process of aeration, it is reasonably inferred that a proper balance is required between the two functions of respiration and circulation, or, in other words, between the quantity of air respired, and that of

the blood circulating through the lungs. It might further be inferred that, in a healthy condition of the organs, a definite ratio is observable between the frequency of the respiration and of the pulse. As a general rule, this ratio may be stated as *one to four and a half*—that is, in a healthy, well-formed adult, when the pulse is 70 in a minute, the number of respirations is about 15 or 16; while, if the pulse is naturally more or less than 70, there is a proportionate frequency of the respiration. So, in case of general febrile excitement, if the pulse is increased in frequency, a proportionate increase of the respiration is required to preserve a due balance between the two functions. In disease, however, it is very common that this balance between the functions is not preserved, and there are many variations in the ratio between the respiration and the pulse.

The object of this essay is to trace the diagnostic, pathological and therapeutic indications of these variations.

That this subject has heretofore received little attention, is evident from the fact, that the few authors who have adverted to it, are not agreed even in regard to the natural ratio between the respiration and the pulse.

This ratio is stated by Haller to be as 1 to 3 or 4; by Dr. Graves, as 1 to 4. The number of respirations in a minute, in a healthy adult, is estimated by Magendie as 15; by Dr. Dunglison, about 18; by Sir Humphry Davy, 26 or 27; while Dr. Good, Dr. C. J. B. Williams, and most other writers, give 20 as the ordinary number. Supposing the latter to be the true number, and the pulsations, as commonly estimated, to be 70 in a minute, the ratio will be 1 to 3 1-2; while, according to the estimate of Sir Humphry Davy, the ratio is about 1 to 2 1-2.

The discrepancy of statements plainly shows, that the observations of authors on this point have been very limited. The only method which will lead to correct conclusions, a method which I have frequently practised since my attention was turned to this subject, is to count the respiration of persons who are not aware of such observation; for, as the respiration is much under the control of the will, its frequency will be varied by the operation of the mind. Hence, a conclusion drawn from observing one's own respiration would be liable to error. Perhaps diversity of climate, and national peculiarities of constitution, may occasion some variation from the ratio which I have stated; but so constant has been this ratio, of 1 to 4 1-2, according to my observation, that I have regarded any considerable variation from it as a pretty sure indication of malformation or disease. In a diagnostic and pathological point of view, therefore, I regard the *comparative frequency* of the respiration and the pulse as highly important.

In early infancy there is less regularity in this ratio. Owing to imperfect development of the lungs, or some other cause, it is

not uncommon that an infant, with a pulse of 120 or 130, will have 40, 50, or even 60 respirations in a minute. Generally, however, the healthy ratio becomes established in the course of the first or second year. So in adults, the respiration is rendered frequent by many circumstances which can hardly be considered as disease. Obesity, by preventing a free and large expansion of the chest, gives occasion to increased frequency of the respiration. The same effect is produced by a distension of the stomach or intestines, by pregnancy in females, and by any circumstance which prevents a free descent of the diaphragm. Any circumstance, indeed, that prevents a full quantity of air from being received into the lungs with each inspiration, necessarily calls for more frequent respiration. As a general rule, if the respiration is deficient in fullness, the deficiency is compensated for by increased frequency.

DIAGNOSTIC INDICATIONS OF A DISPROPORTIONATE FREQUENCY OF THE RESPIRATION AND THE PULSE.

The general diagnostic indications afforded by variations of the ratio between the respiration and the pulse, may be reduced to two heads.

1st. A disproportionate *increased* frequency of the respiration indicates,

A. Disorder of the lungs or air passages.

B. Some mechanical impediment to the motions of respiration: or,

C. Imperfect function of the organic nerves of the lungs.

2nd. A disproportionate *diminished* frequency of the respiration indicates a want of energy in the nerves which control the respiratory motions.

1st. A. *Frequent Respiration from Disorder of the Lungs or Air Passages.*

It is obvious why disease of the lungs should occasion a disproportionate increased frequency of the respiration. If by engorgement, hepatization, tubercular deposition, or other disease, a portion of lung is rendered unfit for respiration, the remaining healthy portion, having the whole office of aeration to perform, must act with increased frequency in order duly to arterialize the blood. If, for instance, only one half of the lungs is fit for respiration, the frequency must be doubled. Thus, in acute diseases of the lungs, the ratio between the respiration and the pulse may be considered as some criterion of the *amount* of pulmonary obstruction. In cases, however, attended with either depression or exhaustion of nervous energy, as we shall hereafter notice, this criterion must be received with some allowance.

Frequent Respiration in pneumonitis. The relative frequency of the respiration in pneumonitis is one of the most constant symptoms of the disease. As in other febrile diseases, the pulse is commonly frequent, but the increased frequency of the respiration is altogether disproportionate to that of the pulse. In cases of extensive engorgement, it is not uncommon that the respiration is 45 in a minute, when the pulse does not exceed 90; the ratio becoming as 1 to 2. In extreme cases, the respiration becomes even 60 or 70; and in children I have occasionally noticed it 140 or 159. In less degrees of engorgement, the ratio is as 1 to 3, 3 1-2 or 4.

Commonly the pain in the chest, cough, and other symptoms, sufficiently indicate the general character of the disease. In some *latent* cases, however, these general symptoms are wanting; and there is scarcely a single symptom indicating pulmonary disease, except the comparative frequency of the respiration.

A single case may be adduced, as an example of the importance of the ratio between the respiration and the pulse, as a diagnostic indication in such cases.

In March, 1832, I was one morning called to visit a young man, who had been attacked, the night previous, with chills, succeeded by considerable heat and febrile excitement. The skin was now cool, the tongue slightly furred—no pain or soreness in any part of the system, no disturbance of the stomach or bowels, no cough or expectoration, nor was the patient sensible of any difficulty of respiration. The pulse was 78, the respiration 30. This disparity between the pulse and the respiration was the only apparent general symptom of local disease—a symptom which probably would not have been noticed, but for my constant habit of attention to this point. The patient had not been subject to habitual shortness of breathing, and strict inquiry gained no clue to the existing disease. But the abnormal ratio between the respiration and the pulse (about 1 to 2 1-2) warranted a suspicion of disease within the chest; and, on applying auscultation and percussion, it directly appeared that the lateral and posterior portions of the right lung were extensively engorged—in short, there was a *latent pneumonitis*, occupying a greater part of the right lung. A large blister was applied to the affected side, and calomel, elaterium, sanguinaria, and other remedies which had proved serviceable in the pneumonitis of that season, were perseveringly administered. The disease continued day after day to run a perfectly latent course; and the nurse, a judicious elderly lady conversant with disease, was very distrustful of my diagnosis, saying that she had "always seen lung fever attended with pain in the chest, cough, difficulty of breathing and expectoration." At the commencement of the 6th day of the disease, I was called to my patient in the night. The nurse met me at the door, exclaiming, "now, doctor, I be-

lieve you—the man has lung fever." The symptoms at this time were a severe pain in the affected side, a laborious, rattling respiration, and a copious bloody expectoration. The disease was now making a crisis, and the patient gradually convalesced. Whether this favorable result would have occurred is very doubtful, had not the treatment been directed by an early correct diagnosis.

We often hear of similar irregular cases of disease, which are described as "typhoid fever," or "general debility," which continue for 6 or 7 days, when a "pneumonia sets in" and carries off the patient. In such cases, attention to the comparative frequency of the respiration and the pulse would always lead to investigation for disease of the respiratory organs.

Frequent respiration in Phthisis. In the early stage of *phthisis,* this disparity between the respiration and the pulse may be regarded as one of the most valuable signs. It is not uncommon, in this disease, that considerable tubercular deposition in the lungs takes place, before the occurrence of cough, expectoration, and many other of the ordinary symptoms of the disease. Frequently, indeed, there are no prominent general symptoms, except, perhaps, a progressive debility and emaciation. With these symptoms, a disproportionate increased frequency of respiration affords a strong presumption of tubercular deposition. A simple general debility increases the frequency of respiration; but it occasions a proportionate increased frequency of the pulse—the ratio of 1 to 4 1-2 is still preserved. Whereas, if the lungs are obstructed by tubercles, the respiration is out of proportion to the pulse.

In this disease the abnormal ratio between the respiration and the pulse is a more uncertain criterion of the *amount* of pulmonary obstruction than in *acute* diseases; for the scrofulous affection which produces the tubercular deposition in the lungs, at the same time impairs the processes of digestion and sanguification—hence, the quantity of blood in the system is much less than in health, the pulse is weak, and each contraction of the heart sends a small quantity of blood to the lungs; the quantity of blood to be aerated in the lungs is, therefore less than natural, and a smaller quantity of air is required in respiration. In advanced stages of phthisis, there is so little blood in the system, that a very small proportion of healthy lung is sufficient for its arterialization, with only a moderate acceleration of the breathing. I have examined subjects who had died of this disease, in whom scarcely a tenth part of the lungs appeared to have been fit for respiration; when, a few days before death, with a pulse of 130 or 150, the respiration had not exceeded 35 or 40. Were the lungs obstructed to this degree in acute diseases, with a full quantity of blood in the system, an immeasurably increased frequency of respiration would be required to sustain life. But in

the progress of a lingering case of phthisis, the quantity of blood in the system; the size of the aorta and other arteries, which are sometimes diminished in calibre nearly one half; and the feeble imperfect contractions of the heart, all become accommodated to the small remaining portion of healthy lungs.

I should here notice some incidental remarks in the clinical lectures of Dr. Graves, of the Meath Hospital, Dublin, which seem to be the result of imperfect observation. He remarks, "I have seen many cases of phthisis, in which there was accelerated breathing, with slow pulse, but these were always cases of a chronic kind. I have never observed the same phenomenon existing when the disease was acute; it is a state of things which is compatible only with chronicity of disease." In *acute* pulmonary disease, he says, when the respiration is considerably accelerated, there is "a corresponding increase in the frequency of the pulse." The very reverse of this is true. Certainly nothing is more common, in the early stage of acute pneumonitis, than to have the respiration 30, 40, or even 60 in a minute, when the pulse does not exceed 90. In acute œdematous inflammation of the lungs, I have often, within a few hours from the first attack, observed the respiration 70 or 80 in a minute—a mere panting—when the pulse scarcely exceeded its natural frequency. And in the early stage of phthisis, with a comparatively moderate tubercular obstruction of the lungs, I have commonly observed the disparity between the frequency of the respiration and the pulse greater than in the more advanced stages.

The observations and judgment of Dr. Graves are justly considered as high authority; but he has evidently given little attention to this subject; and he properly remarks, "I do not know any point on which accurate observations are more wanting than on the proportion between the pulse and respiration in various states of the system, and in various diseases. Facts upon this subject might be easily collected, and would probably lead to curious and instructive results.

Frequent respiration in œdema of the lungs. This disease is a very common cause of frequent respiration. Though the disease was noticed by Hippocrates, and has been more particularly described by Van Swieten, Darwin, Maclean, and others, most recent writers appear not to be aware of its common occurrence. Dr. Good barely notices it, as if doubting its occurrence. In treating of other dropsical affections within the chest, he says, "Mater is, *perhaps*, sometimes effused into the cellular texture of the lungs." Laennec says it is "rarely a primary and idiopathic disease. It comes on most commonly, with other dropsical affections in cachectic subjects, towards the fatal termination of long continued fevers, or organic affections, especially those of the heart."

It appears to me that the question, in regard to this affection, is to be resolved into the general one, whether any dropsy is a primary and idiopathic disease. I am certain that no part of the system is so commonly the seat of dropsy as the lungs; and, in general anasarca, it is commonly in the lungs that the disease is first manifested. Even those authors who appear to doubt the existence of such an affection as idiopathic œdema of the lungs, generally mention disordered respiration as a symptom of general anasarca.

There are many cases which appear to be intermediate between a proper inflammation and an acute dropsy of the lungs—cases which might be termed œdematous inflammation. Such cases certainly have claim to the character of a primary and idiopathic disease. Of this character was the prevailing affection of the lungs in the epidemic influenza in New Haven, in the winter of 1831–32. In many cases of that disease, extreme frequency of the respiration, as compared with the pulse, constituted almost the only symptom of thoracic affection.

In cases of chlorosis, in most of the chronic disorders of menstruation, in general debility, and in cachectic diseases generally, swelling of the ankles and other symptoms of general anasarca commonly occur. In almost all such cases I have found œdema in the lungs, before its manifestation in other parts of the system; and frequently the lungs are the only part in which it is to be observed. The affection can hardly fail to be injurious, by obstructing the lungs and interfering with a due aeration of the blood, and it is therefore very important to detect it in its early stages. Attention to the relative frequency of the respiration will afford suspicion of the disease; and a slight dullness observed on percussing the posterior portions of the chest after the patient has been lying on the back, or the same observed about the inferior lobes of the lungs after sitting or standing, with a dull respiratory sound corresponding to the dullness of percussion, will render the diagnosis almost certain. If the serum infiltrates into the air cells and the minute bronchia, as frequently occurs, especially when the affection has any thing of an inflammatory character, the stethoscope detects a sound like that produced by squeezing a wet sponge, by wringing wet clothes, or by the effervescence of fermenting liquors—a feebler and finer sound than the crepitation characteristic of proper inflammation.

Frequent respiration in various disorders of the lungs and air passages. Besides the diseases already mentioned, any affection of the lungs, which prevents a portion of them from being freely permeated with air, necessarily occasions frequent respiration. Atrophy or emphysema of the lungs, congenital imperfection of the organs, solidification or any other lesion consequent to former disease, or pulmonary apoplexy, may produce this effect. A like effect is produced by disorders of the bronchia or bronchial

membrane, as mucous or other obstructions within the bronchia impeding the passage of air, or any affection of the bronchial membrane preventing a communication between the air and the blood within the lungs.

B. *Frequent Respiration from some Mechanical Impediment to the Motions of Respiration.*

Any disorder within the chest, exterior to the lungs, which affords a mechanical impediment to the expansion of the lungs, necessarily causes frequent respiration, as hydrothorax, pleuritic effusion, effusion into the pericardium, enlargement of the heart, aneurism of the aorta, or any tumour within the chest. The same effect is produced by ascites, flatulent distension of the stomach or intestines, or fullness of the abdomen from any other cause, operating to prevent a free descent of the diaphragm; hence a full meal occasions some acceleration of the breathing. Frequent respiration is caused also by any circumstance which renders a full inspiration painful, as rheumatism, or any inflammation of the intercostal or other muscles of respiration; or a like affection of the pleura, pericardium, heart, or any of the abdominal viscera. In peritoneal inflammation, the soreness and tumefaction of the abdomen render the respiration extremely short and frequent. Sometimes a debility of the respiratory muscles occasions the motions of respiration to be feeble, short, and frequent.

C. *Frequent Respiration from Imperfect Function of the Organic Nerves of the Lungs.*

In the function of respiration two important classes of nerves are chiefly concerned.

The *motions of respiration* are effected by that class which Sir Charles Bell terms *the respiratory system of nerves.* These nerves arise from the lateral portions of the medulla oblongata and upper part of the spinal cord. The functions of these nerves and, of course, the motions of respiration, are performed without the aid of the will; but, by means of voluntary nerves distributed to the respiratory muscles, the will acquires some control over these motions.

The branches distributed to the lungs from *the great sympathetic nerve*, termed also *the ganglionic, or organic system of nerves*, are more immediately concerned *in effecting the aeration of blood.* A full quantity of air in the lungs is inadequate to effect this change, without the influence of these branches of nerves. The motions of respiration therefore, may be continued, through the influence of the former class of nerves, but if the organic or arterializing nerves cease to perform their office, the venous blood is returned unchanged, to the left side of the heart, and thence transmitted to the system through the arteries.

So if the function of these nerves is imperfect, the blood is in the same degree imperfectly arterialized.

These considerations explain reasonably how imperfect function of the organic nerves of the lungs occasions a relative frequency of respiration. Like organic disorder of the lungs, and the mechanical impediments to respiration, which have been adverted to, this nervous lesion operates to diminish the arterializing efficacy of each inspiration; and, consequently, a greater number of respirations is required.

The lesion of function of the organic respiratory nerves is considered, in this place, only as one of the causes of frequent respiration: the pathological effects of this lesion, in preventing a due arterialization of the blood, will be considered under our second general head, in connection with the subject of imperfect function of the motor respiratory nerves.

General diagnostic indication of increased frequency of respiration.

From the preceding considerations it may be inferred, that a disproportionate increased frequency of respiration does not indicate the particular disease which impedes the respiratory function. The impediment may be some disorder of the lungs or air passages, or some mechanical impediment to the motions of respiration, or an imperfect function of the organic nerves of the lungs. The frequency of breathing only affords the general indication, that there is some impediment to the respiration, the particular cause of which is to be investigated by attention to the symptoms, and by auscultation, percussion, and other means of exploration. Attention to this general indication will, in many cases, enable the practitioner to adapt his remedies successfully to local diseases, which otherwise might altogether elude observation, and lead to serious and even fatal results.

2d. *A disproportionate diminished frequency of the respiration indicates a want of energy in the nerves which control the respiratory motions.*

A lesion of function in either of the two classes of nerves principally concerned in respiration, occasions a disparity between the respiratory and circulating functions, and causes imperfect aeration of the blood. Imperfect function of the *motor* respiratory nerves produces this effect, by causing a disproportion between the quantity of air respired, and that of the blood circulating through the lungs. Imperfect function of the *organic* or *arterializing* nerves produces the same general result, by impairing the influence of the respired air on the blood. In the former case the quantity, in the latter the effect, of the respired air is diminished. As the pathological effects are in general the

same, it is proper to consider in connection, A. Imperfect aeration of the blood from disordered function of the *motor* respiratory nerves; and, B. Imperfect aeration of the blood from disordered function of the *organic* respiratory nerves.

GENERAL PATHOLOGICAL EFFECTS OF IMPERFECT AERATION OF THE BLOOD.

The celebrated French physiologist, Bichat, was the first who drew the attention of physicians to any satisfactory knowledge of the pathological effects of imperfect arterialization of the blood. He found, by experiments, that if a current of venous blood is turned into the carotid arteries, it produces torpor of the brain. A moderate quantity of black blood thus transmitted to the brain, produces a degree of stupor and drowsiness. A large quantity produces loss of sensation and voluntary motion, and occasions coma and death. By turning, in the same manner, a current of venous blood into the main artery supplying one of the limbs, he found it to occasion a numbness and paralysis of the limb. In short, if venous blood is made to circulate through any artery of the system, it occasions a torpor of the part supplied by such artery. If the function of the lungs ceases, while the heart continues to act, the blood not arterialized circulates through the whole system, occasioning a general torpor, paralysis and death.

The effects caused by a cessation of the respiratory function, are termed *asphyxia.* The general phenomena of asphyxia produced by a sudden cessation of the respiratory function, as in hanging, drowning, &c., are well known—the heart continues to act, sending the black blood into the arteries which naturally circulate red blood; the skin and all parts of the system assume a livid color; consciousness, sensation and voluntary motion are suspended; and, with the cessation of the heart's action, death ensues. Similar phenomena occur in most diseases at the close of life; and, in the opinion of Bichat, asphyxia is by far the most common immediate cause of death. "Whatever may be the seat of the principal disease," he says, "whether it be an organic defect, or a general injury of the functions, as fever, &c. almost always, in the last moments of existence, the lungs are embarrassed; the respiration becomes painful; the air is taken in and expelled with difficulty; the coloration of the blood is hardly carried on; it passes nearly black into the arteries. The organs, already debilitated by disease, receive much more easily in that state the fatal influence of the contact of this blood, than in asphyxia where they are unaffected. The loss of sensations and of intellectual functions, and very soon that of voluntary motions, succeed the embarrassed state of the lungs. The man has no longer any connection with surrounding objects; his

whole animal life is interrupted, because the brain, which, as it is known, governs this life, penetrated with black blood, ceases its functions. By degrees the heart, and all the organs of internal life, imbibing this blood, cease their motions also. In this case it is the black blood which altogether stops the vital motions already enfeebled by the disease. It is in general very rare that debility produced by disease brings on death in an immediate manner; it paves the way to it, and renders the organs susceptible of being influenced by the smallest change in the red blood. But it is almost always this change which puts an end to life. The cause of the disease is therefore only an indirect cause of general death; it occasions that of the lungs, which latter brings on that of all the organs."—(*Treatise on life and Death.*)

These views of Bichat, in regard to the deadening influence of the black blood on those parts of the system which are naturally supplied with red blood, are now commonly received by pathologists. Perhaps this influence is not so generally the immediate cause of death, as this author supposed; but it is probably true, that death is most commonly produced in this way. Since the publication of Bichat, the subject of this influence has received considerable attention, particularly as an immediate precursor and cause of death; while but little attention has been given to a less degree of the same influence observable in the progress of many diseases. Throughout the progress of some diseases, particularly fevers of a typhous character, this relation between the respiration and circulation appears to have a most important influence, a correct understanding of which, it is believed, will lead to many important therapeutic indications.

A. *Imperfect Aeration of the Blood from Disordered Function of the Motor Respiratory Nerves.*

A lesion of function of the respiratory system of nerves *impairs the motions of respiration*, causing the respiration to be infrequent and small; and in consequence, less than a natural quantity of air is respired. In this condition of the respiration, if the circulation continues strong, a disparity between these two functions occurs; the air respired is insufficient duly to aerate the blood in the lungs; and consequently the blood passes into the system imperfectly arterialized.

The deleterious effects of such impaired function of the respiratory nerves may be estimated from a consideration of the well known deadening influence of the black blood in extreme cases of asphyxia. The imperfectly arterialized blood, though still retaining enough of its arterial character to sustain life, occasions a degree of torpor in the brain and all parts of the system supplied by the arteries. Sensation, consciousness, voluntary motion—all the cerebral functions—become impaired. The

capillary vessels, partially paralyzed, become distended and engorged with dark colored blood; the lips and finger nails have a livid tinge, a livid paleness pervades the whole surface, and the florid hue of health is nowhere seen. Secretion and absorption become affected; passive engorgements take place in various parts; indeed, a torpor produced by the deadening influence of the imperfectly arterialized blood pervades the whole system. The respiratory nerves, in common with other parts of the system, become affected with this torpor, which, by rendering the respiratory motions more languid, tends still further to impair the arterialization of the blood, which again reacts on the respiratory nerves. As the degree of this influence increases, the cerebral functions become more oppressed, and symptoms of approaching dissolution appear, such as subsultus tendinum, coma, colliquative discharges, and frequently tympanitic distension of the abdomen.

Typhous fever. Something of the train of symptoms above described ordinarily occurs in typhous fever, and in other diseases of a typhoid character. The lesion of nervous function in the brain, which is a prominent characteristic of typhoid diseases, almost always extends to the respiratory system of nerves, occasioning a disparity between the respiration and the circulation. While the healthy ratio between the respiration and the pulse is 1 to 4 1-2, in typhous fever it is commonly 1 to 5 or 6, and in many cases 1 to 7 or 8. The respiration, though often more frequent than in health, is not proportionate to the increased frequency of the pulse; and if the pulse is less frequent than natural, as sometimes occurs, there is more than a proportionate infrequency of the respiration. In most cases this relative infrequency of the respiration continues through the whole course of the disease, and during the last seven years I have never seen a case of simple typhus in which it was not remarkable in some stage of the fever.

It is true, that in this disease the heart partakes of the attending general debility, and in consequence, its action being feeble, less blood is thrown to the lungs by each contraction; from which it might seem that, notwithstanding the relative infrequency of respiration, the blood may be sufficiently arterialized. On the contrary, however, it may be observed, that the repiratory muscles also partake of this general debility, and in consequence the respiration is feeble and small. In general, I think the smallness of the respiration is more than proportionate to that of the pulse, so that the deficiency of arterialization is even greater than is indicated simply by the infrequency of respiration.

That the blood is imperfectly arterialized in typhus, is sufficiently evident from the symptoms of the disease. Dr. Armstrong, in giving the distinguishing signs of common continued

fever and typhus, says, "that "In the common continued fever, the patient commonly has not much inaptitude of mind, often answers questions readily, and in a pretty firm voice, without much increased agitation of the breathing; whereas in typhus the answers are mostly given with languid slowness and reluctance, and much speaking obviously disturbs the respiration. In the common continued fever the skin is generally of a brighter red than natural, especially on the cheeks; on the contrary, the skin is always more or less of a dusky color in typhus, and an admixture of it may be best observed in the flush of the face. This duskiness of the skin is one of the proper symptoms of typhus, and seems to arise from some change in the constitution of the blood, which I have almost invariably seen darker on dissection than in ordinary fevers. In the worst cases, this duskiness increases in the progress of the disease, and lessens in those that assume a mild aspect. So very characteristic is this cutaneous duskiness, that I think I could distinguish typhus by it at any time, if two patients were presented to me, the one laboring under that disease and the other under the common continued fever."—(*On Fever*, p. 235.)

In another part of his treatise, (p. 410), Dr. Armstrong observes, "The blood is always blacker in typhus than natural. In severe cases it is remarkably so where the excitement is fully emerged, and at last the solids are most decidedly affected, as any one may perceive who marks the dark hue of the muscles on dissection. This state of the blood in typhus, if I mistake not, is connected with that peculiar depression of strength, and with the peculiar condition of the sensorium, which attend the rise and progress of this disease. . . . . But," continues Dr. Armstrong, "the nature of this change in the blood, I do not pretend to determine, and only meant to point to it as an object worthy of far more attention than it has yet received."

Dr. Southwood Smith says, "The skin is always of a darker color than in synochus; the whole surface is of a dull and dusky tinge."—(*On Fever*, p. 166.)

The dark color of the blood in typhus is noticed by other authors, as of common occurrence. That it "is *always* blacker than natural," as asserted by Dr. Armstrong, is questionable. Though I have always observed, in some stages of the fever, a relative infrequency of respiration, with the dark colored blood, and other symptoms necessarily attending this imperfect respiration; yet I have noticed, in the commencement or progress of some cases, an occasional acceleration of the breathing, continuing for several hours or even days, during which the cheeks assumed a florid color, and there was every indication of perfect aeration of the blood. Sometimes there is even a morbid frequency of respiration apparently depending upon irritation of the respiratory nerves, during which the skin is uncommonly

florid, and there is morbid wakefulness and sometimes a phrenzied delirium. Such a state, however, is ordinarily of short continuance, and is succeeded by infrequent respiration, lividity of skin, a low delirium, subsultus tendinum, and coma—the irritative excitement being succeeded by a morbid depression of nervous energy.

No inconsiderable part of the symptoms occurring in typhus, it is believed, may be attributed to the imperfect respiration which we are considering. The "sensorial debility and disturbance of the mental powers," which are prominent characteristics of typhus, may be produced by any impediment to the respiration, preventing a proper aeration of the blood. But it is not to be supposed that this imperfect respiration is ordinarily the first link in the chain of disease in typhus. It is preceded and caused, in most cases, by a torpor of the respiratory system of nerves, which appears obviously connected with a general depression of nervous energy throughout the system. In such cases, however, the imperfect respiration cannot fail to add to the general nervous torpor, through the paralyzing influence of the black blood; and in cases of disease commencing in the lungs, a similar torpor of the nervous system is a consequent result.

I have adverted particularly to typhous fever, as a disease in which this deficient arterialization of the blood is ordinarily prominent throughout its progress. In this disease there is hardly a point requiring more careful observation for prognostic and therapeutic indications. A remarkable relative infrequency of respiration, in the early stage of the disease, indicates an alarming prognosis. If in this stage the respiration and pulse are as 1 to 7 or 8, it is almost certain that its course will be of a low typhoid character. Vertigo, tinnitus aurium, subsultus, a muttering delirium, and coma, are almost sure to succeed. If such infrequency of respiration occurs in any stage of the disease, it may be considered as the precursor of a similar train of symptoms. Those symptoms which are commonly attributed to "determination to the brain" or "congestion in the brain," are associated with, and in a great measure depending upon, this imperfect respiration.

Congestive typhus. In that form of disease which is treated of by Armstrong and others as congestive typhus, this deficiency of respiration appears to be a prominent cause of the peculiarities characterizing this form of fever.

This variety of typhus is commonly ushered in with chills, vertigo, drowsiness, and extreme general prostration; the breathing is infrequent, irregular and sighing, or in some cases frequent, but short, feeble and inefficient; the skin pale and somewhat livid; the heat of surface unequally diffused; the pulse rather frequent and irregular, or in some cases very infrequent and oppressed; sensation and voluntary motion are sud-

denly impaired; and subsultus, muttering delirium, and coma soon supervene. In rapid cases the disease has a near resemblance to apoplexy. On dissection, the blood is found accumulated in the veins and the right side of the heart; the arteries, brain, muscles, and all parts of the system, are dark colored from the black blood contained in them; and the blood either remains liquid, or coagulates very imperfectly.

Dr. Southwood Smith, in describing this form of typhus, says, the patient "lies insensible, with a cold and dusky skin; with a swollen and livid countenance; with a heavy and oppressed respiration; with a pulse perhaps not to be felt, or, if distinguishable, either so rapid that it cannot be counted, so small that it is like a thread beneath the finger, and so weak that it is lost by the slightest pressure, or else slow, irregular, and intermittent. In this state the patient is almost as completely paralyzed as in apoplexy, and the attack is almost as rapidly fatal as apoplexy."

(*Treatise on Fever*, p. 175.)

The symptoms and post-obit appearances certainly are the same as those attending asphyxia produced by inhaling certain noxious gases, by mechanical obstruction of the lungs, and by a division of the respiratory nerves; and a careful consideration of the phenomena, I think, must lead to the conclusion that imperfect respiration is a most prominent feature of the disease. These circumstances surely demand a most careful attention to the disparity between the respiration and the pulse, which attends this form of disease.

Not only in typhus, but in all diseases, when the relative frequency of the respiration is less than in the proportion of 1 to 4 1-2, it is a sure indication of deficient aeration of the blood, unless, as in some rare cases, there is some disproportionate debility of the heart, occasioning frequent, feeble, and ineffectual contractions of that organ.

But there is, in many cases, deficient aeration, when the ratio between the frequency of the respiration and pulse is normal; and even when there is a comparative increased frequency of respiration. Typhous fever may be complicated with some affection of the bronchial membrane, preventing a free communication between the respired air and the blood within the lungs; or with some affection of the lungs or pleura, preventing a full expansion of the lungs; or with tympanitic distension of the abdomen (a common symptom in typhous and typhoid fevers), preventing a free descent of the diaphragm; or with other circumstances before adverted to as occasioning a mechanical impediment to the respiratory motions. Sometimes, also, in connection with the general debility attending typhoid diseases, there is a disproportionate debility of the respiratory muscles, causing the motions of respiration to be small, feeble, and inefficient. In all such cases the blood will be imperfectly aerated,

unless the relative frequency of respiration is more than natural; as the deficient fullness of respiration ought to be compensated for by increased frequency. If the cause of this impeded respiration is manifest, it will of course be considered in counting the respiration and pulse; but if the impediment is latent, the relative frequency alone might lead to an erroneous conclusion. The degree of fullness of respiration is to be considered in connection with the frequency. Commonly, however, the imperfect aeration is sufficiently evident from the livid tinge of skin, the drowsiness, listlessness, and other symptoms which it produces.

Pneumonitis. In this disease, especially when of a typhoid character, the symptoms of imperfect aeration of the blood are always evident. In almost all cases the frequency of respiration is considerably increased. In a moderately severe case, with a pulse at 90, the respiration will be as frequent as 30 in a minute—that is, in a ratio of 1 to 3; and when the lungs are extensively engorged, the ratio is often as 1 to 2. In one sense a very frequent respiration in this disease is a bad symptom, as it indicates extensive engorgement; but while the engorgement continues, this frequent respiration is favorable, and indeed absolutely necessary to sustain life. It is desirable that the increased frequency should compensate for the pulmonary obstruction; but it is rarely fully sufficient for this purpose. The "tumid, purple face or lips," constituting a part of the definition of pneumonitis in Good and other authors, indicate that, notwithstanding the increased frequency of respiration, still the blood is imperfectly arterialized. A further increased frequency is desirable, provided there is not a corresponding increase of the pulmonary obstruction; if this obstruction is diminished, a proportionate diminished frequency of respiration is not unfavorable; but if the respiration suddenly becomes less frequent, while auscultation and percussion detect no abatement of the obstruction within the lungs, the symptom is alarming. It indicates that the nerves of respiration are losing their energy, and that imperfect aeration of the blood, with its consequences, muttering delirium, coma—in short, a fatal asphyxia—will ensue. The more typhoid is the character of the pneumonia, the greater is the danger of this failure of respiration. Indeed, in all typhous and typhoid diseases, a torpor of the respiratory nerves is to be apprehended as a common source of danger.

Typhous fever, complicated with pneumonitis, is a disease in which the effects of imperfect aeration of the blood are remarkably prominent. Dr. Southwood Smith, in treating of "typhus mitior with thoracic affection," very well describes the ordinary phenomena of this disease. "Prominent thoracic affection, as we have seen," he remarks, "is not infrequent in synochus; in typhus it is more constant; and the signs which denote its existence are more obvious, but they are not precisely the same.

The pain in the chest is less severe; it is more often absent altogether; while the sense of stricture and the dyspnœ are more urgent. The cough is more constantly attended with mucous rattle; the respiration is shorter and more hurried. The skin in general is cooler, and it is always more dusky. The dark color of the skin, in severe cases becoming quite livid, is one of the most characteristic marks of intense thoracic affection. The color of the cheek is at first of a deep and vivid red; as the disease advances it becomes of a purple tinge, and at length it is quite livid. In these cases it is not uncommon for the respiration to be from forty to fifty in a minute. The pulse is invariably rapid and weak.* The cerebral affection is equally peculiar and characteristic; it never consists of intense excitement; it is never accompanied with violent delirium; it is indicated by confusion and stupor passing rapidly into coma; and it is attended with low muttering incoherence or disjointed rambling, the trains of ideas that pass through the mind being extremely faint, and linked together by no distinguishable affinity. We know that one of the most essential conditions to the due exercise of the sensorial faculties is the due supply of the brain with arterial blood; but in this state of the system arterial blood does not and cannot circulate through the brain, because it is not formed in the lungs: the patient is in a state approaching to asphyxia, and in very severe cases he remains for several days in as perfect a state of asphyxia as seems to be compatible with life. Why debility should, in these cases, be carried to the utmost possible extent; why such cases should form the most exquisite specimens of the adynamic state, need not be pointed out: the disease is concentrated in the very organ which elaborates the pabulum of life, and that stream which should convey its vivifying and animating influence to every nook and point of the system, is corrupted at its source."—(*Treatise on Fever*, p. 169.)

With this clue to the prostrating influence of the black blood on the system, it is remarkable that Dr. Smith appears to have drawn no practical inference from it, even in the thoracic cases under consideration; and it is scarcely less remarkable that he should not have traced the effects of this influence in the other forms of typhus, and in other fevers. These effects of imperfect aeration of the blood are almost equally observable in the "typhus mitior with cerebral affection," and other forms of ever described by this author, and especially in typhus gravior.

The author also omits to mention the important fact that pneumonia, when occurring with typhus, is ordinarily of a *latent* character. Sometimes it manifests the thoracic symptoms

*The *oppressed* pulse, which is common in this disease, is not "invariably rapid and weak," but sometimes infrequent, irregular and intermitting.

which he has described; but more commonly not only the pain in the chest is "absent altogether," but no "sense of stricture" is complained of, there is no cough or expectoration, and, unless in the advanced stages, there is no "mucous rattle."

Another important omission in the detail of symptoms might seem remarkable, were it not common to most authors; in the description of one hundred and fifteen cases of fever, the number of respirations in a minute is stated in only two or three cases. That almost all authors neglect this point, while variations in the frequency of the pulse are carefully and minutely detailed, is sufficient evidence that the importance of the relative frequency of the respiration and the pulse has been most unaccountably overlooked.

Delirium tremens. In this disease, according to my observations, there is always this imperfect respiration. Ordinarily there is a remarkable relative infrequency of respiration, even when the disease is complicated with affection of the lungs. Authors generally appear not to be aware how commonly this disease is thus complicated. In May, 1832, I lost a patient with delirium tremens, who had manifested few symptoms of pulmonary affection; but after death the lungs were found very extensively engorged. The case induced me to examine particularly for latent affection of the kind in all cases of this disease. Since that time, now six years, I have attended more than 60 cases, and have been surprised to find in every case decided indications of pulmonary engorgement. In most cases there is, in the early stage, a distinct crepitation, such as ordinarily attends pneumonitis; in other cases the sound is such as indicates edematous engorgement, resembling the sound produced by squeezing a wet sponge, by wringing wet clothes, or by the effervescence of fermenting liquors. The engorgement appears to be of a passive kind, being manifested in the most depending portions of the lungs—about the posterior portions, if the patient has been lying on the back; or in the inferior lobes, if he has been long in an erect posture. I am inclined to believe that this engorgement, which prevails through the whole course of the disease, has commonly been mistaken, in post-obit examinations, for that passive accumulation in the back of the lungs which takes place in most diseases in the last moments of life, or after death. Since turning my attention to this point, my experience has co-incided with that of the late Dr. David Hosack, of New York, who stated in his lectures, that he had always found delirium tremens complicated with pulmonary disease.

As before remarked, the respiration is ordinarily infrequent. The ratio between the respiration and the pulse is sometimes 1 to 6 or 7, even when there is considerable pulmonary engorgement. This condition of the respiration accounts for the livid skin, and may be a principal cause of the cerebral perturbation and the trembling which characterize this disease.

Night-mare (Ephialtes nocturnus, Good) is unquestionably owing to imperfect respiration. This disease is described by Dr. Good, as "produced during sleep, and interrupting it with violent struggle and tremor: the pressure on the chest seeming to be that of some hideous monster or phantom." The respiration is remarkably infrequent, irregular, and interrupted; and commonly attended with a noise indicative of anxiety and distress. The mental hallucination is sometimes an apprehension of being crushed by some heavy weight, or of being violently grasped by some hideous animal, or of being smothered under a bed, or of being tightly bound or closely confined. In general, the hallucination is such as appears to have its origin in some interruption of the respiratory motions; and it is quickly dispelled by awaking, or by an external impression which excites the motions of respiration. It occurs during sleep, when respiration is deprived of the aid of the will; and is in many cases produced by a full meal taken at bed-time, which operates, in part at least, to impede the motions of the diaphragm. It most commonly occurs when a person is lying on the back, probably because in this position the weight of the lungs presses on the ganglia and trunks of the organic nerves, and the abdominal viscera crowd against the diaphragm, more than in other postures of the body.

B. *Imperfect Aeration of the Blood from Disordered Function of the Organic Respiratory Nerves.*

The aeration of the blood is immediately dependent upon the nerves distributed to the lungs from the *sympathetic, ganglionic or organic system.* The lungs may be sound and duly filled with air, but still the function of aeration is not performed without the aid of these nerves. A lesion of their function suspends the process of arterialization, notwithstanding the *motions* of respiration are continued, through the influence of the respiratory nerves.

Some degree of the imperfect action of these nerves is very common in *typhous* and *typhoid fevers*, and other diseases, and especially in *erysipelas*, *scarlet fever*, *malignant cholera*, and some forms of *dyspnœa* and *asthma.* It causes the respiration to be frequent, irregular, sighing, and anxious. The patient, while possessed of consciousness, feels the unsatisfying effect of respiration, and often says that his breathing seems to do little good. All the voluntary muscles accessory to respiration are instinctively called into occasional vigorous action; but even after several successive full inspirations, a conscious want of further respiration remains. If this kind of breathing continues, in any aggravated degree, for a considerable length of time, it ordinarily becomes complicated with a torpor of the brain and respiratory nerves, and the patient sinks into a state of asphyxia.

This appears to be the most common fatal termination of scarlet fever, erysipelas and other similar diseases.

It is a fortunate provision of nature, that there is an intimate connection between this set of nerves, and the nerves governing the action of the heart: in consequence of which there is *ordinarily* a relative proportion between the function of arterialization and the motions of the heart. If torpor affects the arterializing nerves of the lungs, it ordinarily affects, at the same time, the nerves of the heart. Hence, while the arterializing function is impaired, the heart sends a moderate quantity of blood to the lungs to be arterialized, the pulse becoming slow and infrequent, or frequent, small and feeble. In the course of typhus, and other fevers, the pulse sometimes becomes extremely infrequent —50, 40, and even 30 in the minute: in some cases this state of the pulse occurs at the onset of the fever.

This infrequent pulse may attend a torpor either of the motor respiratory nerves, or of the organic nerves of the lungs. In the former case, the breathing is infrequent, slow and small; the skin livid; and there is listlessness or tendency to coma. When the arterializing nerves are in fault, the skin is livid; but the breathing is full, hurried, irregular, sighing and anxious; and there is wakefulness, extreme mental anxiety, and sometimes delirium, succeeded by coma.

Cholera. These circumstances are strikingly manifest in malignant cholera. In that disease the morbific cause seems to determine especially to the organic system of nerves. In some cases the process of arterialization seems at once almost wholly suspended—the peculiar sighing moan, and other symptoms of disordered respiration are observed, and the whole system assumes a livid hue. At the same time the pulse, at first feeble, soon ceases to beat. So far as the influence of the organic nerves extends, life is suspended; while the energy of the brain and medulla oblongata, at least in some degree, remains. Consciousness, volition and respiratory motion continue; but the arterializing function of the lungs and the motion of the heart have ceased. In this state I have seen a patient lie, perfectly pulseless, for more than eight hours, when the functions of organic life gradually revived, and the patient recovered.

Most physicians, like myself, from mistaken views of the pathology of this disease, treated their first cases by attempting to arouse the action of the heart with opium, alcohol and other stimulants. This attempt, in some cases, was too effectual. The heart being excited to action, the blood is thrown to the lungs, from which it returns not arterialized to the heart; the left ventricle now contracts, and sends the black bluod, with its usual deadening influence, to the brain and whole system supplied by the arteries; insensibility and coma ensue, and the patient dies asphyxied. Life may continue some time with a

total stoppage of the circulation; but it is soon extinguished by a circulation of black blood in the arteries.

The asthma with puerile respiration described by Laennec, affords an example of this imperfect arterialization from disordered function of the organic nerves. "In cases of this kind," says Laennec, "the respiratory sound has resumed all the intensity which it possessed in early infancy; we perceive distinctly the pulmonary expansion taking place with uniformity, completeness, and puerile promptitude, in all the air cells: and yet the patient is oppressed in his breathing, or, in other words, he constantly feels the want of a still more extensive respiration than he enjoys. The lungs, dilated as they are in an extraordinary manner for an adult, nevertheless have not capacity enough to satisfy the wants of the system. This affection is sufficiently common in persons affected with chronic mucous catarrhs, attended by a copious and easy expectoration. In such cases, the dyspnœa is frequently very intense, and is sometimes so aggravated by the slightest motion, that the patient, though otherwise in pretty good health, is condemned to a life of inactivity, or even to an almost complete state of immobility. Attacks of asthma, however, properly so called, are less frequent in such subjects, than in those affected with the dry catarrh. In these latter cases, the imperfection and small extent of the respiration easily account for the oppressed breathing. But in the others, even during the severest attacks, the completeness with which the respiration is performed is quite astonishing; the sound of it is quite puerile; and, as in the case of a strong and healthy child, we are sensible of the dilatation of the pulmonary cells to their full capacity, and over the whole extent of the chest. Nevertheless, the patient is oppressed, and, as I have already stated, would require a more extensive respiration than his organization allows; in other words, the respiration is very perfect, but the wants of the system in relation to it are increased beyond the standard of health. In such cases it is not in the lungs that we must look for the cause of the disease, but in the innervation or nervous influence itself; and this will hold equally good, even if we adopt the chemical theory of respiration, and refer the dyspnœa to an extraordinary want of oxygen in the blood. If a temporary obstruction of the bronchia by a little mucus impedes the transmission of the air to even a small portion of the lungs, the patient experiences an extreme oppression."—(*Forbes' Laennec*, p. 512.)

SYMPATHY BETWEEN THE DIFFERENT NERVES CONCERNED IN RESPIRATION.

Such is the sympathy between the different nerves concerned in respiration, that there is rarely disordered function in one class

of nerves, without some degree of similar disorder in the other class. In the disease, which have been adverted to, as examples of the disordered function of each class of nerves, commonly all of the nerves concerned in respiration are, in some degree, similarly affected. In typhous fever, for instance, the torpor of the motor respiratory nerves is commonly the most prominent, but there is ordinarily also some degree of torpor in the organic nerves; and in many cases it is not easy to decide whether one or the other class is the more affected. If disease commences with torpor of the organic nerves, the consequent imperfect aeration of the blood ordinarily soon occasions torpor of the motor nerves, by the paralyzing influence of the black blood.

Many diseases, besides those already adverted to, are commonly attended with deficient aeration of the blood. Dr. Stevens, for many years a distinguished practitioner in the West Indies, has particularly noticed the dark color of the blood in *yellow fever*, and some other diseases of tropical climates. Dr. Daniell has made similar observations in the *autumnal fevers* of Savannah. In *dyspepsia*, *hypochondria*, and some forms of *mania*, it may ordinarily be observed. From obvious causes it occurs in *croup*, and other diseases in which there is obstruction of the air passages. All fevers of a typhoid character are commonly attended with this condition of the blood; and indeed there are few diseases in which it may not occasionally occur.

From the preceding considerations it may be observed, that imperfect aeration of the blood is occasioned by various causes. Attentive observation of the symptoms in particular cases is requisite to ascertain whether there is any mechanical impediment to the expansions of the chest, or whether the fault is in the air passages, the lungs, the motor respiratory nerves, the respiratory muscles, or the organic nerves of respiration. A correct diagnosis in regard to these circumstances is highly important in a therapeutic point of view.

THERAPEUTIC INDICATIONS.

It is doubtful whether, in any disease, an *excessively aerated condition of the blood* is a prominent morbid feature. I suspect that such a condition sometimes occurs, dependent upon irritative excitement of the organic nerves, in erysipelas, scarlet fever, and some other diseases; but, if so, this state ordinarily is soon followed by collapse, with imperfect arterialization. On the contrary, there are few diseases in which *deficient arterialization* does not sometimes occur. Bichat considered it as by far the most common immediate precursor and cause of death, and I think it has been rendered evident, in the preceding part of this essay, that such a condition of the blood has some degree of injurious influence, in various stages, and sometimes throughout the progress, of many diseases.

The general therapeutic indication, therefore, connected with the relation between the respiratory and circulating functions, is *to promote the arterialization of the blood*, or, in other words, *to remedy deficient respiration.*

Contra-indications in cases of deficient respiration.

Stimulants, which ordinarily operate to increase the action of the heart, without a corresponding increase of the respiration, should be withheld, or given with extreme caution, when the blood is imperfectly arterialized. From erroneous pathological views, much injury is done, in such cases, with this class of remedies. The deleterious effects of such medication in cholera have been already adverted to; and the same remarks are applicable to cases generally in which the respiration is in a diminished proportion to the pulse. The paralyzing influence of the imperfectly aerated blood occasions a torpor of the whole system. The heart becomes affected with this torpor, and the feeble, small, and sometimes slow, infrequent pulse, seems to indicate debility of this organ. It is, however, commonly a torpor or oppression, rather than the debility of exhaustion; the respiration is inadequate to produce that change in the blood which renders it fit fully to support the vitality of the organs to which it circulates; there is already more blood circulating through the lungs than they can arterialize. Under these circumstances, *alcohol* and *fermented liquors*, *opium*, *quinine*, *serpentaria*, and all articles which operate to increase the action of the heart, more than that of the lungs, may have a most injurious effect. By transmitting an additional quantity of blood to the already over-burdened lungs, they cause the whole mass of blood in the system to become more deteriorated, and thus add to the torpor which occasions the apparent debility. Such effects are too frequently produced in the progress of typhous fever, typhoid pnemonitis, and other diseases, especially in the last moments of life.

We will suppose a case of *pneumonitis*, in which during the progress of the disease, one half of the lungs has been obstructed by engorgement. The pulse has been about 90, the respiration 35 or 40. The respiration has been thus frequent, because one half of the lungs has had to perform the whole office of arterialization; yet the tumid, purple lips, the general lividity of skin, and some cerebral oppression, have shown that, with this forced effort, the respiration still has been deficient. At length—commonly on the sixth day—there is an effort towards a crisis. There is as yet little if any resolution of the engorgement within the lungs; but there is increased secretion from the bronchial membrane, while the secretions of the system generally are beginning to be unlocked. The lungs, almost suffocated by the bloody mucus poured out into the bronchia, are struggling with

increased effort to perform their office. All the accessory, as well as ordinary muscles of respiration, are engaged in agonizing labor to aerate the blood. But the lividity of skin has increased, and the brain, rendered torpid by the black blood circulating in its arteries, scarcely allows the aid of the will to sustain the respiratory efforts. Under these circumstances active stimulants are administered for the purpose of supporting the sinking powers of life. The action of the heart is excited, and the blood is hurried through the lungs, at once overwhelming the exhausted respiratory powers. For a few moments the system appears to make a renewed struggle to relieve itself of the suffocating oppression; but coma comes on; the respiration, becoming feebler and shorter, soon stops; and the heart, "the ultimum moriens," after a few more feeble, irregular pulsations, yields under the deadening influence of the black blood.

. Cases of the above description are not uncommon; and a less degree of the injurious effects of such stimulants, given in the progress of fevers attended with deficient respiration, it is believed, is one of the most common errors of medical practice.

Yet there are cases of deficient respiration—cases attended with absolute debility or atony—which are benefitted by these remedies. *Coma* even sometimes is relieved by full doses of opium; and in small doses opium and other stimulants often may be serviceable in absolutely atonic cases. Their operation however, should be carefully watched; and if they increase the action of the heart. without a corresponding increase of the respiratory function, the operation will be injurious.

A nutritious diet, by invigorating the circulation, and increasing the quantity of blood; and *muscular exercise*, by hurrying the circulatien, commonly have an injurious effect, in cases of this comparative infrequency of respiration.

The disparity between the respiration and pulse is aggravated also by *remedies which operate directly to diminish the frequency of respiration.* Most of the *narcotics*, given in full doses, so as to affect the brain, producing vertigo, drowsiness, or coma, have this effect by inducing torpor of the brain and respiratory nerves; and some of them in moderate doses have a similar operation.

Strychnine in large doses occasions the respiration to be remarkably slow, irregular and infrequent; while in moderate doses it sometimes improves the respiratory function. I am now treating a general paralysis of the portio dura with this remedy, in whom one sixth of a grain four times a day produces fornication, slight pricking pains, and frequent spasmodic twitching of the muscles. While under this operation, the ratio between the respiration and pulse is about 1 to 7 or 8; though the patient has the ordinary healthy ratio, 1 to 4 1-2, when not under the influence of medicine. In this case, however, the

strychnine does not appear to occasion a deterioration of the blood proportionate to the diminished frequency of respiration; and in less doses it is a useful remedy for deficient arterialization depending on a torpor of the organic nerves. In such cases it appears to have an exciting operation on the arterializing nerves, as might be inferred from its efficacy in some forms of asthma and dyspnœa, in which a torpor of these nerves is manifested.

By a similar operation, as before remarked, alcohol, opium, and the exciting narcotics generally, in small doses, sometimes have a favorable effect. Their general exciting operation may be determined especially to the organic nerves of the lungs, or to the brain and motor respiratory nerves, occasioning the breathing to be more full and easy, and the blood to be more perfectly aerated. In some epidemics these effects are so uniform that the physician learns to prescribe such remedies in particular cases, with almost perfect confidence. Aside from the observation of epidemic peculiarities, however, and a consideration of the attending general debility, I know not what general rules can be given to enable a practitioner to calculate on a favorable operation of such remedies, in cases of imperfect arterialization of the blood. As before observed, when used in such cases their operation should be carefully watched; and if they are found to excite the circulatory, more than the respiratory function, their operation will be injurious.

Remedies which promote the arterialization of the blood.

These are,

1st. Remedies which diminish the action of the heart and arteries.

2d. Remedies which excite and invigorate the motor respiratory nerves.

3d. Remedies which excite and invigorate the arterializing nerves of the lungs.

4th. Ventilation.

5th. Remedies which obviate mechanical impediment to the respiration.

6th. Remedies which excite secretions vicarious of respiration.

1st. *Remedies which diminish the action of the heart and arteries.*

These remedies obviate a disparity between the two functions by reducing the circulation to a proportion with the respiration. The *antiphlogistic* medicines generally belong to this class.

Venesection is one of the most important of this class of remedies. If the pulse is frequent, full and strong, with a comparative infrequency of the respiration; or, as occurs in pneumonitis, pleuritis, bronchitis, and some other diseases, if, with this

condition of the pulse, the respiration is frequent, but still inadequate to a due aeration of the blood, there can be no question as to the propriety of bleeding to reduce the circulation. There are other cases, equally requiring bleeding, in which the indications are less obvious. Imperfect respiration, by producing torpor of the heart and arteries, through the ordinary influence of the black blood, may render the pulse infrequent, slow and feeble. This constitutes what is called the *oppressed, depressed,* or *obstructed pulse.*

This oppressed pulse is common in the congestive variety of typhous fever, in some forms of pneumonitis, and in other diseases. When a vein is opened, the blood runs slowly, and has almost a tarry consistence and color: but as the circulation becomes relieved, and the process of aeration is better performed, the blood assumes a florid appearance, and runs freely. This change in the blood takes place more suddenly when some degree of fainting occurs during bleeding, to check or suspend the heart's action; hence when the principal object of bleeding is to restore the balance between the respiration and the pulse, and promote the aeration of the blood, it is well to encourage fainting by bleeding in an erect posture.

The oppressed pulse may occur in a highly inflammatory, or a low typhous or typhoid condition of the system. In both these conditions, bleeding tends to restore the balance between the respiration and the pulse. In the former, bleeding is required not only to reduce the pulse to a proportion with the respiration, but also to subdue inflammation—the pulse rises in fullness and strength, as the oppressing effects of the black blood are removed; and the bleeding may be continued freely. In a low typhoid case, only one of these objects is to be accomplished by bleeding, which should be stopped as soon as faintness is induced, or the blood assumes a florid, arterialized appearance; or, if possible, the disparity between the respiration and the pulse should be oviated by other means without bleeding.

Antimony has a striking effect in diminishing the action of the heart, without producing a corresponding diminution of the respiration. In cases of inflammatory excitement it is useful in reducing arterial action, but it is particularly useful when such excitement is connected with deficient respiration.

This affords one reason for its efficacy in pneumonitis, in which this remedy has been employed successfully in frequent large doses, by Rasori, Laennec, and other modern writers. In this disease, the refrigerant and alterative powers of the remedy have a favorable operation, in reducing and resolving inflammation; but I have found it especially adapted to those cases in which the symptoms of deficient arterialization are prominent—when the respiration is infrequent and small, the skin livid, and the cerebral powers oppressed. Laennec observed

patients, in this disease, to recover their consciousness under the use of this remedy; and he advises a persevering employment of it when "the oppression is great, or the head affected."

Dr. Thomas Marryatt, of Bristol, England, who published a treatise on therapeutics, in 1788, gave tartar emetic successfully in fever and in pleurisy. "I have seen many instances," he observed, "wherein a paper has been given every three hours [gr. x. in six papers], without the least sensible operation, either by sickness, stool, sweat, or urine; and, though the patients had been unremittingly delirious for more than a week, with subsultus tendinum, and all the appearances of hastening death, they have perfectly recovered without any other medical aid—a clyster every other day excepted."

Laennec found tartar emetic successful in "hydrocephalus" [cerebral congestion?] supervening "in the course of continued fever," and "general debility"—also "in nervous affections connected with a congested state of the brain or spinal marrow."

Dr. Graves employs this remedy in delirium tremens, and "with very remarkable success at various periods of fever, but principally towards its termination." In the low stages of spotted fever, when the symptoms denoted "a combination of primary general nervous excitement with a secondary cerebral congestion," he found a combination of tartar emetic with laudanum very successful. "This method," he observes, "has manifestly saved many, many lives, under a combination of circumstances apparently hopeless."—(*Graves's Clinical Lectures.*)

In the low stages of many febrile diseases, opium may be given advantageously in combination with antimony, when it could not be given alone, without danger of producing cerebral congestion. The opium allays nervous irritation, exercises its general stimulant operation, and thus sustains the powers of life; while the antimony, by preserving the balance between the respiratory and circulating functions, and thus promoting the arterialization of the blood, prevents the congesting effects of the opium.

Ipecac, like antimony, operates to diminish the force and frequency of the heart's action, and thus obviates a disparity between the respiratory and circulating functions. It is less powerful than antimony; but is appropriate to some cases, in which the more debilitating effects of antimony might be injurious.

The *refrigerant salts*, nitrate of potassa, bitartrate of potassa, sulphate of magnesia, sulphate of soda, &c., reduce the circulation, and in appropriate cases thus have a favorable effect in equalizing the respiratory functions.

In the use of antiphlogistic remedies, for the purpose under consideration, the *general tone of the system* is to be observed; and in low atonic cases caution is required, lest their general debilitating effects shall more than counterbalance the advantage

of equalizing the respiratory and circulating functions. In low stages of typhous fever, for instance, these remedies sometimes may be required for this purpose; but as it is important, in such cases, to avoid the occasion of debility and exhaustion, it is desirable to equalize the functions by other means; and when debilitating antiphlogistics are employed, their operation should be continued no longer than necessity requires.

Digitalis is well known to possess the property of diminishing the frequency and force of the pulse in a remarkable degree. It sometimes has a similar effect on the respiration, especially in large doses, but not in proportion to its effect on the pulse. By virtue of this operation, it is often useful in typhus, pneumonitis, erysipelas, scarlet fever, and other diseases, and particularly in congestive fevers. It relieves morbid wakefulness, subsultus tendinum, muttering delirium and coma; and sleep induced by it is commonly more refreshing than when induced by opium and most other narcotics, because the respiration is less oppressed.

In a former part of this essay, the remarkable deficiency of respiration which occurs in *delirium tremens* has been noticed; and the success with which I have treated this disease, principally with digitalis, induces me briefly to describe my general plan of treatment. In 1820, Dr. A. L. Peirson, of Salem, Mass. (New Eng. Jour. of Med. and Surg., Vol. IX.), recommended digitalis in the treatment of this disease. After bleeding, he gave the tincture, in doses of seventy-five drops, every two hours.

Several years since, owing to epidemic constitutional changes, or some other reason, I observed that opium was less successful in this disease, than it had formerly been in my practice; and I was induced to make trial of the digitalis. I commence the treatment of a case with a full cathartic dose of calomel, which is followed with the exhibition of nitrate of silver,* in doses of gr. 1-8, every hour, or gr. 1-4 every two hours. If called in the early part of the day, I adopt no direct means for inducing sleep until night—the natural time for sleep. In the evening I direct one ounce of tincture of digitalis, of which a third part is to be given every two hours until sleep is induced. If this fails, the nitrate of silver is resumed and continued through the following day; and on the following night an ounce and a half of the digitalis is directed, one third to be given every two hours. In a great proportion of cases sleep is induced, and the disease suspended, the first night; and it is very rare that the wakefulness continues through two nights. In most cases no other remedies are used; though sometimes, in connection with them,

*For a notice of the medicinal properties of this remedy, see subsequent part of this essay.

I direct castor, artificial musk, camphor, or some bitter infusion, with a blister to the back of the neck, or a wash of tincture of cantharis and aqua ammoniæ to the scalp. In a few cases the digitalis has been rejected from the stomach, when I have directed smaller doses at shorter intervals. Of more than fifty cases, treated on this general plan, only four have been fatal. One had been tampered with by a quack, before I was called; the second was complicated with a severe pneumonitis affecting both lungs; the third came on in the course of a severe dysentery—sleep was induced, but the patient sank, after two weeks, with the dysenteric symptoms; the fourth was complicated with erysipelas affecting the face and head, and terminated fatally on the ninth day. In the latter three cases, death appeared to be owing less to the delirium tremens, than to the diseases with which it was complicated.

Ergot has even greater efficacy than digitalis in depressing the circulation. In doses not sufficient to produce any violent effects, it will reduce the healthy pulse from 70 to 50 or even 40 in a minute. But at the same time it depresses the respiration. While digitalis affects the motor nerves of the heart more than it does the respiratory nerves, ergot affects both, and in most cases the respiratory nerves chiefly. When the object is simply to diminish the action of the heart, as in active and irritative hemorrhages, I have found this remedy incomparably more valuable than any other; but on account of its depressing the respiratory motions, it is decidedly injurious in cases of deficient arterialization; and it is noticed, in this place, only to contrast its powers with those of digitalis.

Sanguinaria Canadensis in its medicinal effects is considerably allied to digitalis. It is narcotic and alterative. By its narcotic operation it diminishes the frequency and force of the heart's action; and by virtue of this operation, when the circulation is proportionately more active than the respiration, it restores an equilibrium of action. It is particularly useful in diseases of the lungs and bronchial membrane. In pneumonitis, catarrh, croup, and other diseases of the respiratory organs, its alterative operation promotes healthy secretion, produces resolution, and thus aids the respiratory function, by improving the condition of the lungs, while its narcotic operation tends still further to equalize the respiratory and circulating functions by depressing the action of the heart. In such cases, when the skin is livid, the cerebral powers are oppressed, and other symptoms of imperfect arterialization are manifest, its favorable operation relieves the cerebral symptoms, and gives a florid hue to the skin. As an operation consequent to these effects, the *oppressed pulse*, which is common in such cases, often becomes more frequent, full and strong—an effect which probably has occasioned the common, but erroneous impression, that sanguinaria operates directly to stimulate the action of the heart.

In very large doses, sanguinaria, like most other narcotics, produces torpor of the brain and respiratory nerves, with infrequent, slow, and stertorous breathing, and its consequences the ordinary symptoms of asphyxia.

Colchicum, Veratrum, Nicotiana tabacum. and Lobelia inflata, with general narcotic and alterative powers like sanguinaria, have also a similar operation in diminishing the action of the heart.

Polygala Senega though destitute of narcotic powers, is similar to sanguinaria in its alterative effects, and in its operation on the heart. The latter operation, probably, is dependent on the *nauseating property* of the remedy—a property which, in several of the articles before enumerated, contributes to diminish the action of the heart.

2d. *Remedies which excite and invigorate the motor respiratory nerves.*

Articles generally which produce sudden cerebral excitement with mental exhileration have this effect. *Ether, camphor, ammonia, musk, castor, assafœtida, oil of amber, cajuput oil,* and the volatile terebinthinates, such as *oil of turpentine* and that of the *Abies Canadensis,* belong to this class. These remedies are commonly termed *diffusible stimulants;* but, with the exception of the volatile terebinthinates, they have little, if any, direct stimulant operation on the heart. Their main operation is on the nervous system. They produce *cerebral excitement,* relieving drowsiness, coma, and low delirium, and in virtue of this operation they call the *aid of the will* to assist in respiratory action; and at the same time they appear to have a direct *exciting operation on the respiratory nerves.* In the low stages of typhous and typhoid fevers, when the respiration and the cerebral functions are oppressed, they quicken the respiration, and thus tend to relieve coma, delerium subsultus tendinum, and other symptoms of nervous oppression. They are especially useful about the time of the crisis of fevers, particularly the crisis of pneumonitis and other diseases of the respiratory organs. Their operation is ordinarily transient; but the frequent use of these various articles, in succession, is highly important in sustaining the nervous energy and the respiratory action, through the critical period of such diseases. Whenever in the progress of typhous or typhoid fevers, the respiration is observed suddenly to become infrequent, these remedies should be promptly and perseveringly employed to quicken the respiration and prevent the deadening influence of the black blood through the system.

Dr. Graves highly recommends this class of remedies, in cases "when there is great prostration of the powers of life, oppression of the nervous functions, and low, muttering deliri-

um;" and a remark of his in regard to musk, that "it exercises a stimulant effect on the nervous system, without having any tendency to produce cerebral congestion or coma," is applicable, in general, to other remedies of this class. Indeed, the practice of giving these remedies, for the relief of such symptoms, is common; but the rationale of the practice, and the leading principle, that coma and other symptoms of cerebral oppression are commonly owing to imperfect respiration, have not been generally understood.

Enemata of some of the articles above enumerated—particularly of camphor and oil of turpentine—semetimes operate very promptly to relieve oppression of the respiratory and cerebral functions.

Coffee and green tea are mild but valuable remedies of this class. I think that injury is often done to persons who habitually use these articles in health, by withholding them during sickness. In typhous fever, typhoid pneumonitis, and many other diseases, their remedial efficacy, in producing cerebral excitement, and in quickening the respiration, is important. The use of strong tea, in cases of stupor occasioned by excessive doses of opium or alcohol, is common.

External vesicatories and *irritants*, such as cantharis, nitrate of silver, corrosive sublimate, mustard, oil of turpentine, oil of cinnamon, and the like, are valuable adjuvants in such cases. A blister applied to the back of the neck is one of the most common remedies for coma and other symptoms of cerebral oppression; and probably irritants applied to this region, from its proximity to the origin of the respiratory nerves, are more effectual than to other parts of the system. Dr. Graves prescribes blisters with this view; and in some cases of typhus, I think I have seen good effects from continuous irritation in this region, excited by a pitch plaster, with a small quantity of pulverized nitrate of silver sprinkled on its surface.

Calling the attention of a patient to his respiration, and prompting him to take frequent full inspirations, tend to keep up the process of aeration, and to prevent the patient from sinking into a comatose condition. I am always careful, about the sixth day of pneumonitis, to watch the symptoms of an approaching crisis. If the symptoms of deficient arterialization are increasing, as always occurs when the crisis is likely to prove serious, I perseveringly employ the diffusible excitants above mentioned, apply a blister or other irritant to the back of the neck, and whenever the respiration flags, I arouse the patient to the necessity of full and frequent inspirations. I remain by the patient until a nurse or other attendant has learned this mode of management, which in some cases is required to be continued for several hours. By this management I have seen patients sustained through the critical period of this disease, who otherwise would almost certainly have sunk into a fatal asphyxia.

It is well known, that in a low typhous or typhoid state, it is necessary that a patient, who inclines to sleep, should be frequently aroused. In natural healthy sleep the respiration is ordinarily slower and less frequent than during wakefulness. The ratio between the respiration and the pulse ordinarily becomes 1 to 5 or 5 1-2. The aid of the will is withdrawn, and the breathing is performed wholly by the involuntary respiratory nerves. In low typhus fevers the disparity during sleep becomes still greater. While awake a patient feels those distressing sensations, which attend imperfect aeration of the blood, and which instinctively demand the aid of the will to assist the torpid and enfeebled respiratory nerves and muscles; but during sleep, the aid of the will being withdrawn, the breathing becomes irregular, intermitting, short and infrequent—a breathing which in this diseased condition would soon overwhelm the system with asphyxia.

But in spite of all our efforts, the respiration sometimes flags, and patients sink into a comatose sleep, from which, for a time, they cannot be fully awaked. Our efforts should be still continued; if the patient is able to swallow, the most diffusible excitants, ammonia, ether, camphor, &c., should be administered little diluted, so as to make a strong impression on the mouth and fauces; or the same substances should be applied to the nostrils, or sprinkled on the face. These means, with perhaps the aid of frictions over the chest, if they do not awake the patient, will generally arouse the system enough to occasion several successive full inspirations. I recently saw a little patient recover from a coma succeeding scarlet fever, during which, for about three days, the breathing absolutely stopped, whenever these means were discontinued even for a few minutes.

In a similar way cases of profound coma consequent to large doses of opium and other narcotics, taken by accident or with suicidal purpose, have been treated successfully by *flagellation* and other violent *external irritation*. That such means prove efficacious by exciting and sustaining the respiration, may be inferred from experiments, made by Brodie and others, of supporting life, under the influence of enormous doses of certain narcotics, by artificial respiration. These experiments prove that such narcotics occasion death by suspending the respiratory motions and inducing asphyxia, rather than by a direct operation on the brain.

This general mode of treatment has been applied to extreme cases of intoxication with remarkable efficacy.

3d. *Remedies which excite and invigorate the arterializing nerves of the lungs.*

Most of the remedies above enumerated, which operate to excite and invigorate the motor respiratory nerves, have in some

degree a similar operation on the organic nerves of the lungs. Such is the sympathy between these two classes of nerves, that when one of them is affected with torpor, the other is in some degree similarly affected; and the remedies which affect one class, also ordinarily affect the other. But the effects of artificial respiration in cases of coma caused by alcohol, opium, and other stupifying narcotics, show that in those cases the torpor is principally in the brain and motor respiratory nerves. On the other hand nervous asthma, malignant cholera, and some other diseases, are instances in which the torpor is chiefly in the organic nerves, while the brain and respiratory nerves are comparatively little affected.

These circumstances afford grounds for a distinction of two classes of remedies. The class above treated of operates principally on the motor respiratory nerves. The remedies next to be considered appear to operate principally on the organic nerves, though some of them have also an evident operation on the motor nerves. In general this class produces a gradual and permanent increase of nervous energy, while the former class effects a sudden and more transient excitation.

Nitrate of silver, arsenical solution, chlorine, cantharis and capsicum, are the principal remedies of this class. Tetrakinitrate of bismuth, sulphate of zinc, and bisulphate of copper, have a less degree of the same operation. Mustard and other pungent tetradynamous plants, also belong to this class.

Nitrate of silver. I consider this article as one of the most valuable remedies for restoring and sustaining the balance between the respiratory and circulating functions. It commonly increases the frequency of the respiration; but it appears to operate more on the organic nerves.

My common dose is gr. 1-8, in pill, repeated every hour, or once in two or three hours, according to the urgency of symptoms. Frequently I give a solution of the following form: ℞. Nitrat. argent. gr. ij.; aquæ distillat. ʒj.—dissolve and add syr. simp. ʒvii. M. The dose of the solution may be such as to contain from 1-8 to 1-4 of a grain. The solution is the preferable form when an effect of the remedy on the fauces is desirable, as in scarlet fever, and some other diseases; and it is ordinarily more easily administered to children than the pill.

In typhous and typhoid fevers, in which a failure of the respiration is a source of no inconsiderable part of the danger to be apprehended, I place much reliance on this remedy. *Infrequent respiration, abdominal tympanites,* aphtha, subsultus tendinum,* and *coma*—symptoms which are commonly associa-

*For my first hint in regard to the efficacy of nitrate of silver in obviating tympanites, I am indebted to Dr. Lester Keep, of Fair Haven, in this county.

ted in typhus—are some of the most prominent particular indications for its exhibition. Commonly, however, I commence its use as soon as any degree of deficient respiration is observed, and continue it through the whole course of the disease. When there is a great degree of deficient respiration, and the disease has decidedly the congestive form, with urgent symptoms of oppression of the respiratory and cerebral functions, bleeding, antimony, the diffusible excitants, or other remedies, which more promptly relieve such symptoms, are required; but to prevent these symptoms, to relieve them when moderate in degree, and to sustain the respiratory function when restored from a state of depression, I have found no remedy more efficacious than nitrate of silver. The intestinal hemorrhage, which often occurs in the course of typhus, I have almost invariably observed associated with tympanites; and with the subsidence of the tympanites, which this remedy is almost sure to effect, the hemorrhage has always ceased.*

In delirium tremens this remedy contributes to obviate the imperfect respiration, which has been noticed in this essay, pages 21 and 31, as a prominent symptom of the disease. It relieves also the tremor, false vision, and other symptoms of nervous disorder. These effects are sometimes so obvious to attendants, when the remedy is alternately administered and withheld, that I have been often asked whether its design was to obviate the trembling.

In the treatment of typhoid pneumonitis I consider this remedy a valuable adjuvant, and in many cases I employ it through the whole course of the disease.

In phthisis the nitrate of silver has been highly recommended; but physicians generally appear to have been disappointed in the use of it. As a curative remedy, in this disease, little can be expected from it; though it is useful in relieving occasional symptoms, as paroxysms of dyspnœa, and the drowsiness, livid skin, and other symptoms denoting imperfect arterialization of the blood, which frequently occur.

*In the use of nitrate of silver, the greatest caution is requisite in regard to chemically incompatible remedies. Most authors complain of the uncertain operation of this remedy; and I am confident that inattention to this circumstance is a common cause of the failure of its efficacy. It is ordinarily inert, if given in connection with any alkali or alkaline salt. Ammonia or prepared chalk, for instance, wholly neutralizes its power; and the alkaline salt contained in Dover's powder frequently has this effect. A practitioner, who was formerly a student of mine, several years since complained to me that he had been often disappointed with nitrate of silver in treating typhus. On inquiry it appeared that, in connection with this remedy, he frequently prescribed a mixture containing carbonate of ammonia. Since that time he informs me that he prescribes the remedy with the greatest confidence, and that he could hardly dispense with it in the treatment of typhus.

Dyspnœa, asthma, dyspepsia, hypochondrias and cholera infantum, are diseases to which this remedy is often adapted; and in most diseases attended with general nervous torpor or irritability, or with flatulent distension of the intestinal canal, or with any of the symptoms above mentioned, as constituting particular indications for its exhibition in typhous fever, the nitrate of silver may be advantageously employed.

The following case of *erythema anatomicum*—a case of the writer's personal experience—may serve to show the general indications for which I prescribe the nitrate of silver in erysipelas, scarlet fever, and other allied diseases, as well as to illustrate some other points connected with the general subject of this essay.

One afternoon in March, 1834, I examined the body of a man who died the day previous with a malignant erysipelas affecting the face, scalp and brain. I had at the time on my left thumb two slight scratches made with a common pin a few hours previous; and while examining the body I slightly scratched the same thumb with the point of a scalpel. They were slight abrasions of the cuticle, not sufficient to occasion the least oozing of blood. On the following morning these scratches were a little red and inflamed, attended with a slight itching and smarting sensation. I touched the thumb with a piece of nitrate of silver; and, without apprehension of danger, proceeded to visit my patients during the forenoon. At 11 o'clock, A. M. about twenty hours subsequent to the post-obit examination, I was seized with chills, which continued violent about an hour, when heat of skin, thirst, a quick, frequent, jerking pulse, and other symptoms of irritation and febrile excitement supervened, with nausea and vomiting. There was now no irritation about the thumb, nor any inflammation extending up the arm; and the slight injury of the thumb did not even occur to my mind as the cause of the present symptoms. An emetic of ipecac, with a small proportion of tartar emetic, produced no relief. At evening a swelling and soreness of a gland in the axilla was noticed; and in the course of the night a vivid erythematic inflammation covered the whole left side of the chest. From this time symptoms continued severe, and with little variation until the eighth day of the disease. The pulse was ordinarily from 120 to 130, quick and jerking, but weak; skin rather hot and dry; the affected side painful, and so sore that friction of the bedclothes or any slight touch seemed intolerable. But the prominent symptom, indicated by my feelings, was a difficulty of respiration, evidently connected with affection of the organic nerves. I frequently observed to my attending physicians, that my respiration seemed to be scarcely of any service; and that the sensation was as though the breath was drawn into an inanimate bag. During occasional mental aberration I fancied that

I was using a pair of borrowed lungs. The acute pain and soreness attending the disease seemed trifling as compared with this distressing suffocating sensation. For eight days and nights I was not conscious of a moment's sleep; and when I shut my eyes they were filled with as many imaginary objects, as ever haunt the mind of a patient with delirium tremens. The general nervous irritation, the sensation of impending suffocation, and the want of sleep, were truly agonizing. The disordered function affected the motor, as well as the organic respiratory nerves; and a constant effort of the will was required to sustain the motions of respiration. With such continued effort I ordinarily made from 25 to 35 inspirations in a minute; but still the respiration was unsatisfying. During this period the nitrate of silver, in doses of one eighth or one fourth of a grain, every two or three hours, and sometimes every hour, was almost constantly employed. It rendered the respiration easier, and mitigated the general constitutional irritation; and whenever its administration was suspended for a few hours, the distress and anxiety of breathing became extreme. No other internal remedy showed decided beneficial effects. All exciting remedies appeared to fall in with the diseased irritation and aggravate it. A few drops of laudanum, or a teaspoonful of brandy, produced a distressing nervous excitement through the whole system. Two draps of the oil of valerian seemed to pervade the system with a thrilling sensation, almost like electricity, increasing threefold the nervous irritation. After the disease had progressed several days, the local affection was treated with a wash of the nitrate of silver, 48 grain to ʒij. of water, so as to vesicate almost the whole left side of the chest, with a most happy effect on the local and constitutional symptoms.

I expected this state of irritation to be followed by a general nervous torpor, and apprehended danger from failure of the respiration. I directed the attention of the nurse to this subject; and told her what symptoms would require notice, and what remedies would be needed, should my consciousness and respiration begin to fail. On the eighth day the nurse observed me suddenly fallen into a state of drowsiness, with shortness and extreme infrequency of respiration. On being aroused I found a torpor pervading the system; the whole lower extremities were entirely devoid of feeling: and though the sun was shining bright against my windows, a sense of darkness rendered surrounding objects scarcely visible. My attentive and judicious nurse prompted me to vigorous respiratory efforts; but such was the mental and physical torpor that respiration could hardly be continued. The skin at this time, as I was subsequently informed, assumed a deep livid hue; and, notwithstanding the assiduous exertions of attendants, my respiration occasionally sunk to *ten* and even *eight* in a minute, while the pulse

was beating irregularly about 130. Ether, ammonia and camphor were freely administered and applied to the nostrils; and frictions with volatile liniment and oil of cinnamon were perseveringly employed. I soon revived in some degree; but for several hours the sense of darkness induced me to suppose it real night; and respiration was sustained only by constant and laborious efforts. The involuntary respiratory nerves seemed almost powerless; and for more than twenty-four hours I could not be suffered to sleep longer than two or three minutes, without a nearly total cessation of breathing. The sensations at this time were very different from those of the preceding days, when the difficulty of respiration seemed chiefly depending on the organic nerves. Then the breathing was anxious—the conscious feeling of imperfect respiration, with the exercise of reason, called for vigorous and hurried respiratory action. Now, consciousness, sensation, reason and muscular energy were at the lowest ebb; the little life which remained was a burden; and the exertions of friends to arouse me seemed an annoyance. A person who has never experienced the feelings attending such a state can have no adequate idea of them. As consciousness and reason revived, I felt like one who is laboring to escape from drowning; who has been swimming for the shore, until his strength is almost exhausted; occasionally his head is suffered to sink in despair, and again the agonizing sense of suffocation calls for another desperate struggle; while every wave threatens to overwhelm the last effort of exhausted nature.

After this critical period, wine, brandy, quinine, and a moderate use of opium, operated favorably. Two abscesses formed on the posterior part of the side, each of which discharged five or six ounces of healthy pus.* I was confined to the room in all five weeks. Much of the time there was considerable tendency to tympanitic distension of the abdomen, which was promptly relieved by more full and frequent doses of the nitrate of silver. The disordered function of the nerves concerned in respiration, which was so remarkable through the whole disease, continued in some degree even after I was able to resume the active duties of my profession. Frequently I was aroused from sleep by a sudden deep spasmodic sighing inspiration, which sometimes also affected me when awake.†

*Dr. Higginbottom speaks highly of the external use of nitrate of silver in promoting healthy suppuration. I have observed many proofs of the correctness of his views; and I am fully satisfied that the internal use of the remedy has a no less salutary effect in promoting this object.

†A remarkable symptom, attending the early stage of my disease, was a morbid excitation of the faculty of memory. Articles that I had read cursorily, years before, were fresh in memory, so that I could recollect not only general ideas, but almost the precise language, pages, &c. points on which my memory ordinarily is very deficient. After the critical stage of collapse,

Arsenical solution. It has been a matter of dispute whether this article is a stimulant to the circulating system. I am undecided whether it is directly so, or only secondarily through the influence of the arterializing function. The latter operation is certainly the most prominent; and it is therefore a valuable remedy in the congestive form of typhous and typhoid fevers. Drs. Miner and Tully recommend this article as a valuable remedy in the low stages of typhous and other fevers, when the general debility is attended either with irritability or torpor.—(*Essays on Fevers.*)

Cantharis, as an internal remedy, is of much value in the low torpid stages of typhous and typhoid fevers, particularly those of a congestive form, in which the respiratory function is deficient. It operates upon the nervous system generally, relieving subsultus tendinum, coma, and other symptoms of nervous exhaustion; and its effect on the nerves concerned in respiration, I think, constitutes no inconsiderable part of its favorable operation.

Capsicum is particularly adapted to scarlet fever and erysipelatous diseases generally; but is useful in the low stages of most diseases attended with nervous torpor.

Chlorine. The change which this remedy effects in the blood has been noticed by several writers, and different views have been entertained in regard to its modus operandi. It is useful in typhus; but more especially, I think, in scarlet fever and erysipelatous diseases. The chlorides of soda and lime are convenient forms for its administration.

Creosote appears to have an operation on the respiratory function, similar to that of chlorine; but, from limited experience with this remedy, I cannot speak confidently of its powers.

4th. *Ventilation.*

Free ventilation is very important in cases of difficult or imperfect respiration. Its advantages are very obvious in dyspnœa and asthma, and in many cases of phthisis, pneumonitis, and other diseases.

A most injurious custom prevails in many places—that of crowding the room of the dangerously sick and dying with friends and acquaintances of the patient. I would not, for slight reasons, object to a custom which to many minds appears sanctified by common association with the solemnities of death; but a custom so injurious—so murderous—as this, ought not to be tolerated. To persons in health the impure air of a crowded

there was a proportionate failure of this faculty, the effects of which remained some time after my general health was restored. The first time I rode out, it was with difficulty and uncertainty that I could remember streets and houses with which I had been most familiar; and on several occasions I even found myself laboring to call to recollection my own name.

room is often unpleasant; and in the diseases just mentioned it commonly occasions distressing sensations to patients. But its most injurious effects are to patients who from unconsciousness or extreme exhaustion cannot express the injury thus occasioned them—the dying, and those in imminent danger of death. Many, very many lives, I have no doubt, are sacrificed to this pernicious custom; and, in a great proportion of cases, it renders the last moments of life more distressing, and hastens death. When the system is struggling in agony to sustain the respiration, and nature is almost exhausted, the deteriorated air occasioned by surrounding, anxious, sympathizing friends, may turn the scales in which life and death are so equally balanced.

In severe paroxysms of dyspnœa and asthma, patients commonly feel the necessity of free ventilation; and in phthisis I have had many patients insist on having the windows and doors of their rooms kept open, even in the coldest weather of winter. Such cases show the importance of attending to this subject, in the low critical stages of other diseases; and as a general rule, in such cases, I would advise that a room should be freely opened, while, if the weather is cold, the body is protected with warm but light clothing; and no person should be in the room, excepting such as are required to attend the patient.

5th. *Remedies which obviate mechanical impediments to the respiration.*

This indication is sometimes very important in the treatment of diseases attended with deficient respiration. The various mechanical impediments to the respiratory motions, adverted to in a former part of this essay (page 10), should receive careful attention and be obviated if practicable. If, for instance, the respiratory motions are obstructed by water collected within the pleura or peritoneum, calomel, elaterium, digitalis, and other remedies of this class will be appropriate.

One of the most common mechanical impediments to the respiration, in the low stages of typhous and typhoid diseases, is tympanitic distension of the intestinal canal. For this affection various remedies are used, as ether, camphor, capsicum, the pungent aromatics, and the introduction of a flexible tube per anum; but there is no remedy which I have found so commonly efficacious as the nitrate of silver, exhibited in doses of gr. 1-8 or gr. 1-4, every hour or every two hours.

In dyspepsia, hypochondrias, phthisis, delerium tremens, and other diseases attended with deficient respiration, injury is often occasioned by tight dress, which confines the motions of the chest.

In dyspnœa, asthma, phthisis, and other diseases, patients frequently complain of inconvenience from the weight of bedclothes. In the low stages of pneumonitis, typhus, and in gen-

eral when there is extreme exhaustion, with laborious imperfect respiration—as in the dying—the bed clothing should be of the lightest fabric; and in many cases it is desirable that the clothing should be supported by the hand of an attendant, so as to prevent its pressure on the body of the patient. Under such circumstances, a slight impediment, which in health would occasion no inconvenience, may prove a fatally oppressive load to the system exhausted by disease.

6th. *Remedies which excite secretions vicarious of respiration.* The bronchial membrane, the liver, skin, kidneys, salivary glands, and the uterus and mammary glands in females—all the secernent organs—are to some extent vicarious in their functions.

The menstrual secretion has an important relation to the respiratory function. In cases of oppressed and deficient respiration it is not uncommon that this secretion occasions immediate and decided relief.

In some cases of general exhaustion, as in advanced stages of phthisis, it is generally considered as desirable that this secretion should be suspended. The utility of this suspension appears, however, to depend upon other circumstances than simple exhaustion. If with much exhaustion there is a frequent, quick and irritative pulse, a florid skin, natural wakefulness, and other indications of perfect arterialization of the blood, a continuance of the menstrual secretion is injurious. On the contrary, if the pulse, whether frequent or infrequent, is oppressed; if the lips, the finger nails, and the surface generally, have a livid tinge; if there is a disposition to drowsiness with occasional vertigo and tinnitus aurium; if the exhaustion is complicated with torpor—a torpor occasioned by imperfect respiration—if such are the permanent prevailing symptoms, the menstrual secretion commonly has a favorable effect, and rarely fails to afford at least temporary relief.

I apprehend that the injurious effects of morbidly excessive menstruation have rendered many practitioners over-cautious in regard to the debility which this natural drain of the system is supposed to occasion.

A similar remark appears applicable in reference to the function of *lactation.* Excessive lactation is exhausting; and should be cautiously avoided in the low stages of fever, in phthisis, and other diseases attended with much debility. Yet a sudden suppression of the milk is almost sure to occasion unpleasant nervous symptoms, with oppressed respiration; and in typhous and typhoid fevers, and in some cases of phthisis—notwithstanding a considerable degree of exhaustion—if there are prominent symptoms of oppression of the respiratory and cerebral functions, the secretion should commonly be encouraged.

The skin is well known to perform an office in some degree vicarious of respiration. If the cutaneous secretion is checked, the respiration becomes hurried and laborious; and in cases of oppressed respiration a free perspiration often produces decided relief. These circumstances clearly indicate the importance of attending to the skin, in disorders of the respiratory function. Caution is required, however, in case of disparity between the respiratory and circulating functions, that the remedies exhibited to act on the skin, do not excite arterial action, and thus increase this disparity. Through neglect of this caution, much injury is done by the hot drinks, the external heat, and the general stimulating regimen, commonly employed in domestic and empirical practice, to "sweat" or "steam" a patient, in the commencement of any febrile disease.

The liver also performs a similar important vicarious office. The green discharges, produced by increased action of the liver, which attend a favorable crisis in cholera, are an example of the agency of this organ in depurating the blood. So in congestive fevers free bilious evacuations are almost invariably accompanied with a relief of the subsultus, stupor, coma, livid skin, and other symptoms of imperfect respiration.

Of the remedies which act upon this organ, and thus obviate the effects of imperfect arterialization of the blood, *calomel* is the most important. This remedy, a notice of which has been deferred for this place, on account of this peculiar operation, is one of the most important of the class of remedies, before adverted to, which operate *to excite and invigorate the arterializing nerves.* It appears, indeed, to have an exciting operation on all the organs supplied by the great sympathetic nerve; and hence it produces a general effect on the secretions of the system. Its operations on the liver, the mucous membranes, the skin and the salivary glands, are well known; and most practitioners must have noticed the relief afforded by calomel in cases of cerebral and general nervous oppression—subsultus, stupor, coma, muttering delirium, &c.—symptoms which, as I have endeavored to show, are commonly connected with imperfect respiration.

CONCLUDING SUMMARY.

The preceding essay, it is believed, establishes several important pathological principles, affording valuable diagnostic and therapeutic indications, which hitherto have been but slightly noticed, or wholly unknown. The indications of the pulse have received much attention; but the variations of the respiration have been little attended to, and the relations between the respiratory and circulating functions have been almost wholly neglected.

The *comparative frequency* of the respiration and the pulse in health, which from constant observation during a period of several years, I have ascertained to be 1 to 4 1-2 (p. 3), has not been commonly observed; and most of the indications afforded by *variations of this ratio* (p. 5) have been altogether overlooked.

A disproportionate *increased* frequency of the respiration has been shown to afford the general indication (p. 11) that there is some impediment to the respiration; which may be owing to, A. *Dissorder of the lungs or air passages* (p. 5), as pneumonitis, phthisis (p. 7), œdema, of the lungs (p. 8), or (p. 9) any affection of the lungs which prevents a portion of them from being freely permeated with air, or any disorder of the bronchia or bronchial membrane which impedes the communication between the air and the blood within the lungs: or, B. Some *mechanical impediment* to the motions of respiration (p. 10): or, C. *Imperfect function of the organic nerves* of the lungs (p. 10).

A disproportionate *diminished* frequency of the respiration, which indicates *a want of energy in the nerves which control the respiratory motions* (p. 11), has been shown to be common in typhous fever, and in many other diseases.

The pathological effects of imperfect aeration of the blood, which had been treated of by Bichat and some subsequent writers (p. 12), but which they scarcely noticed except as immediate precursors and causes of death, I have observed to be manifest through the progress of typhous fever (p. 14), and many other disesses. What is commonly termed *congestion in the brain*, I have endeavored to show (p. 17), is simply a deterioration of the blood caused by this imperfect aeration, a prominent example of which occurs in the disease termed congestive typhus (p. 17). The effects of this imperfect aeration, depending upon disordered function of the different nerves concerned in respiration, have been traced in various diseases (p. 14 to p. 25).

The common occurrence, and the injurious effects, of this imperfect aeration of the blood suggest the important general *therapeutic indication* (p. 26) *to remedy deficient respiration.* The medicinal agents are detailed (p. 26 to p. 28) which aggravate deficient respiration, by increasing the circulation, or by diminishing the respiratory function.

The use of remedies, with a view *to promote the arterialization of the blood* (p. 28), it is believed, has never been distinctly treated of by any author, as a prominent object of medication. Though my 1st class of these remedies—those which diminish the action of the heart and arteries (p. 29)—have been commonly known to possess this power over the circulation, still they have not been commonly employed with the view—a view which I consider as highly important in many cases—to obviate a disparity between the respiratory and circulating functions. The 2d and 3d classes of remedies (p. 34 and p. 36)—those which excite

and invigorate the motor respiratory nerves, and the arterializing nerves of the lungs—have rarely, if ever, been recommended for those particular purposes; though I think it will be obvious to my readers, that many of the known valuable effects of these remedies are owing to such operations. The other three classes—4th. Ventilation (p. 42); 5th. Remedies which obviate mechanical impediments to the respiration (p. 43); and, 6th. Remedies which excite secretions vicarious of respiration (p. 44) —though their general effects on the respiratory function have been known, have not been commonly employed for the distinct purpose of obviating deficient aeration of the blood.

In short, the general subject of the pathological relations between the respiratory and circulating functions has received little, very little attention. The writer hopes that he has at least shown the subject to be deserving of investigation.

Part II.—REVIEWS AND EXTRACTS.

The American Phrenological Journal and Miscellany. Philadelphia: Published (for the proprietors) by A. Waldie, No. 46 Carpenter-street.

We have just received the first (or October) No. of this new work, with a prospectus of the same, which we take pleasure in giving a place under our head of Medical Intelligence. Although we still occupy the same ground formerly avowed relative to the science of phrenology—that is to say, we consider its claims as a *practical science*, at least in the present state of its advancement, unworthy of the confidence of the community; and its claims to truth, as a science, incompatible with the facts of anatomy; still we are pleased with the avowed objects of the work before us, and shall be pleased to see truth on this subject, as well as on others, placed beyond the reach of controversy. We have no prejudice against phrenology, or its enlightened and prudent advocates, or partiality for its opposers, which we wish to sustain. If, therefore, there be truth in its compatibility with anatomical facts, in its harmony with "*the truths of revelation*," &c. we shall be pleased to see these facts demonstrated. We would not be considered in thus requiring its consistency with revelation, as wishing to proscribe truth merely because it did not comport with revelation; but that, as Spurzheim says of

religion, we hold that Revelation "is central truth"—*fundamental truth*—truth with which truth *alone*, and with which *all* truth will harmonize. It is so much the very criterion of truth, that all claims to this which do not harmonise with it, may be considered either false, or not well understood: and so insidious is error, and often so plausible too, from the omission of some of the premises which lay the foundation of the reasoning process by which conclusions are arrived at, that we feel it the duty of every friend of truth, whether religious or philosophical, to challenge error at the threshhold, yes, even at the very outposts, and refuse its entrance, without the true sign and password, which prove on good and sufficient trial a fraternal harmony with the great fundamental truths which constitute what are called the revelation of God to men.

The avowed object of this new periodical, as will be seen in the prospectus, is "to preserve from oblivion the most interesting of the very numerous facts confirmatory and illustrative of the truth of phrenology; to show the true bearing of this science on EDUCATION, (physical, intellectual and moral;) on the MEDICAL TREATMENT OF THE INSANE; ON JURISPRUDENCE; ON THEOLOGY, and on MENTAL AND MORAL PHILOSOPHY." (Page 2, Prospectus.) Again: "One prominent object in giving it (the Journal) existence is, to wrest Phrenology out of the hands of those, who, in ignorance of its true nature and tendencies, suppose that they find in it an instrument by which to subvert the truths of revealed religion, and lessen the bonds of human accountability, and moral obligation."

The religious character of the work is declared to "be *decidedly evangelical*;" and respectful enquiries and honest objections on the subject of its religious bearings are solicited; as well as "the communication of facts which are supposed to militate against phrenology, which last, when well authenticated, and all the facts furnished, will be published in the Journal.

This cause may, for ought that we know, be a good one—it may be the cause of truth; but if so of itself, it has been made to appear false, and the instrument of imposition by the itinerant hordes who have been peddling it around the country. We are therefore pleased with the purpose of wresting it from the hands of ignorant imposters, and sitting it on the fair basis of its own merits.

The first article in the number before us, occupying nearly twelve pages, is an introductory statement of its object and design; these are freely, boldly and handsomely set forth. The course marked out is a good one; and in addition to what we have said from the prospectus, promises "to show its bearings on human welfare, corporeal and mental, for time and for eternity." "This large field, therefore," says the editor, "is open before us; and we enter on the cultivation of it, with the assur-

ance that it will not be fully traversed and rendered fruitful till long after we shall cease to be numbered among its labourers."

We regret that our space will not allow us to draw more largely on this ably written introductory statement. According to its views and the purposes it holds forth, the subject which it advocates should be fairly investigated; and we really trust that, as the pages of the only American phrenological journal are fairly open to all respectful objections and enquiries, and to the publication of facts which militate against the truth of the science of phrenology, its pages may become the means of removing all the obscuring rubbish and revealing the truths of nature in this department of science, whether they be for or against phrenology.

The next article is a notice of Dr. Sewall's "examination of Phrenology" and Dr. Caldwell's Phrenology vindicated, and anti-phrenology unmasked." Looking to this work for every thing ingenuous, we regret to observe, as we think we do, a decided favoritism for the vindicator of phrenology, and a spirit of direct proscription of its examiner. For whilst the production of the former is spoken of but in measured terms, relative to—we had almost said its severity, when we should have said, its fulsome abuse, at once disgraceful and calculated to contaminate whatever portion of truth it may have been intended as the vindication of;* Dr. Sewall is hurled into ridicule, and into the contempt of "fourthrate phrenologists," &c. without fully and fairly meeting and disproving the facts from which the examiner deduces his conclusions. He (Dr. S.) is criminated of plagiarism, disingenuousness, intellectual obtuseness, &c. without shewing him to be a plagiarist, only by the dictum contained in the violent ebullitions of the vindicator, and in the face of a personal character for ingenuousness, long observation, intellectual acumen, and piety, *at least* fair, *amongst those of fair claims.*

For the sake of truth, we hope sincerely that the editor will not suffer its beauty and richness to be obscured by untempered zeal; for this is only necessary, to help a *bad* cause by leading the attention off from the contemplation of the error; and when brought into operation in favor of a cause, stands as prima facia evidence of its want of truth. Truth has an intrinsic worth and power too great for it not to prevail, and against which, though beaten on and overwhelmed by successive tides of error, will withstand every assault; and which, though consumed like a phœnix, will like this prototype, rise renewed from the ruins of the conflagration and ultimately maintain its glorious majesty.

*We have only seen those points of Dr. Caldwell's vindication which have been given by reviewers; but in these, we have seen enough to know that Dr. C. has greatly compromitted his merited literary character by the unhallowed mixture of the gall of disgraceful passion.

If then, phrenology be indeed founded on the rock of truth, it needs no unhallowed aid of this kind for its support. It does not need that its competitors be dragged down from their first elevation; but will rise to more glory by its greater exaltation above them.

The number of the Phrenoiogical Journal now under notice contains, in addition to those we have noticed, an article entitled, "*A Phrenological Analysis of Conversion*"; another, entitled, "*Pathological fact, confirmatory of Phrenology*"; an article on "Phrenology in Germany," and one on George Combe, Esq." We regret that we cannot give time to the investigation of their merits.

Part III.—MONTHLY PERISCOPE.

New Infirmary. Dr. Chase has organized and will open, with this month, an infirmary for the relief of poor persons laboring under hernia or rupture, at No. 98 Locust street, above ninth, Philadelphia. Dr. C, has, as is well known, had his attention drawn peculiarly to the department of surgery here alluded to, and has made many improvements in various apparatus for the treatment of hernia. This institution is a novel one in this country, in all its plan and purpose, except that of *treating* hernia for the cure, instead of *selling* the apparatus. The plan of *treating* for the cure, was adopted by Stagner and his agents, who itinerated for this purpose, and not professedly for the sale of trusses. We hope and expect better success from Dr. C.'s operations than was found in the wake of Stagner, within the sphere of our acquaintance.

Two very important purposes lie in the course of this enterprise:—1st. It is purely a charitable institution, designed and calculated to effect an extensive charity to a class of sufferers hitherto illy provided for by various imperfect retentive means, or none at all; whilst they are, more than other people, under the necessity of bodily ability for active and laborious life. The public may not be aware of the large proportion of individuals in this country who suffer more or less privation from some form of hernia, and those diseases which are sometimes mistaken for hernia. Various estimates have been made of the proportion of cases of hernia, in different countries. Its frequency in England

has been estimated as great as one in seven; and in the United States, the proportion has been estimated as great as one in five; which we think probably about correct, *relative to the male population*, amongst whom hernia is more common than amongs females. Dr. C. thinks it, however, perfectly safe to estimate the proportion at one in ten of the human family in the United States. This may be a very fair estimate for the city of Philadelphia, but the general proportion is increased when extended to those engaged in country occupations, and especially in new countries, where the hard-laboring class is greater and the labor more calculated to produce this disease in those who otherwise would pass their whole life free from the affliction.—The more relaxing climates of the south are also calculated to influence in some degree the proportionate frequency of hernia. But at Dr. C's estimate of one in ten, the population of Philadelphia, which is about two hundred and twenty thousand persons, will afford no less than twenty-two thousand patients of this description. Of these, by far the greater proportion are amongst the poor, to whom this charity, most creditable to the heart of its author, is addressed. If Dr. Chase's apparatus are such as to exercise curative powers, and that they are, has been settled by a body as competent as any other, so far as time and opportunity have allowed, the good to be afforded by the faithful administration of this charity by Dr. Chase, as surgeon, cannot fail to afford him abundantly, the delightful complaicency arising from helping those who cannot help themselves; to make the poor bless him as he passes, and cause his memory to be embalmed in the rich tears of gratitude.

2d. But other valuable purposes cannot fail to be effected by the operation of this institution. The collocation together at one establishment, of the great number of cases of these diseases, and their treatment under close observation, and with regular records of all facts, which we doubt not, is no small consideration in the establishing this institution, will soon afford the most ample tests of the extent of the value of the improvements to be put into use in the institution—be it great or small; and at the same time, by the opportunity offered pupils and practitioners, for gratuitous instruction, will disseminate a far greater familiarity with, and more accurate knowledge of those afflictions than has hitherto been enjoyed by the medical community. Dr. C. has our hearty wishes for the greatest possible success in all the benefits designed by this institution, both to himself and to the public.

This institution will be under the government of a board of superintendance, consisting of seven gentlemen, having not less than one-third, nor more than one half, at any time, medical men.

Dr. Chase is surgeon, and Dr. R. Coates' services are enlisted as consulting surgeon and ex-officio member of the board. The rules, regulations, and general laws, are all such as they should be, and are not to be altered or amended, nor new ones enacted, without the consent of the committee of superintendance. The first general law is as follows: "No officer of the institution shall ever be permitted to receive any pecuniary emolument for instruments or surgical advice given in the infirmary, nor shall any be required of the graduates or students who may attend the practice thereof."

Cæsarean Section. The propriety of an early resort to this operation in cases where it is necessary, has been very properly insisted upon; but the circumstances which render it necessary, are not always readily determined. M. Castel stated, at a recent meeting of the Academy of Medicine, (Feb. 17th, 1838,) that some years since, a woman was in labour at the *hospice de perfectionnement*, the professors were all assembled, and the cæsarean section resolved on. The crowd of students was so great that some delay took place whilst arrangements were making for their accommodation, and during this time the woman's delivery took place naturally.

M. Gimelle also stated that he saw, at the *hospice* of M. Dubois, a small woman who had five times submitted to the cæsarean section, and who was delivered naturally the sixth time.—*Gaz. Méd. de Paris*, March 3, 1838.

The occurrences above related, afford a very salutary lesson to the obstetrician, and at the same time evince great weakness, or what is worse, carelessness, in high places. In the first instance, the consultation of the hospice de perfectionnement had settled the matter, that the child *could not be born* per via naturules, but it *was thus born*, too soon to allow the time necessary for accommodating the company and proceeding to the operation. In the second instance, a small woman was delivered in the natural way, at the hospice of Dubois, who had, at the five last preceding accouchements been compelled to suffer the cæsarian section. We feel disposed to venture the belief that M. Dubois was not the operator in the five previous cases, or any of them; we have too much confidence in his good judgment and discrimination.

Under the best circumstances, this operation requires the greatest care to prevent its being one of the most formidable in all surgery. Much of the success of those who have a great fondness for the knife, depends on their early accession to the operation, and on the other hand much of the ill success of surgery arises from too much procrastination, either from the insubordination of the patient or want of timely decision on the part of the surgeon. With the former cause of delay, the surgeon has little to do; his course is plain when his patient rebels against his prescription. But no one point in the practice of surgery is of more importance to humanity and to the science,

than that rare, but valuable attribute, called decision. We do not mean by decision, that flippant quickness of pronunciation by which words are made to announce that an operation must be performed. This may be imprudent or criminal precipitancy, the effects of which are doubtless seen in many communities, where the loss of limbs abounds on every hand. This speaks badly for the surgery of such place; for the beauty and the perfection of surgery lies in its ability to cure, to save, or to renew deficiencies instead of mutilating. That is commendable decision—the only kind with which the surgeon or physician should feel self-complaicency, or which should be tolerated by a community, which is promptly deduced from the whole bearings of the case duly ascertained and properly estimated; and every decision short of this manner of coming to it, is but a guess. The nobleness—the greatness of surgery is not in the mere manipulations or the dexterity and accuracy with which the knife, the saw and the tenaculem are used. It is true that good surgery cannot be practised without good and accurate manipulation; but the main, radical value of the science lies in the *judgment* exercised in its administration.

We have often thought that there was in many instances better practice found in exercise by many thinking men in our own country, and in private practice, than was found amongst those in high places. We have often observed announcements of wonderful improvements in general practice, and in surgery and obstetrics abroad, which were old things and long proved by our judicious practitioners; and we have often seen successes boasted of abroad, of which many of our private practitioners would feel perfectly ashamed. But we confess ourselves utterly astonished at the facts of the two cases at the head of this article; and we trust that there are no such blunders any where in American surgery.

Case of Cæsarean Section, performed with success for the fourth time, on the same individual. Although we believe this to be the same case reported some time ago, by M. E. Charlton, President of the Medical Society of Edinburg, and noticed on page 178, vol II. of this Journal, (q. v.) we give it here as reported by Dr. Michaelis. and taken by the *Eclectic Journal* from *Pfaff's Mittheilungen*, on account of some additional facts of interest which the present version contains.

Case of Cæsarean Section, performed with success for the fourth time on the same individual. By Dr. Michaelis, of Kiel. An account of the three preceding operations, and of the case generally, is given in our second volume, p. 270. The first operation was performed in June, 1826, the woman being then in her twenty-ninth year; the second in January, 1830; the third in March, 1832. This woman became once more pregnant, and, the operation being equally necessary as before, it was performed by Dr. Michaelis, on the 27th June, 1836, after the patient had been in labour three days. The

new incision intersected the second and third cicatrices, and the uterus has become so completely adherent to the abdominal parietes that the peritoneal cavity was not laid open. On the third day after the operation, the patient was threatened with alarming symptoms of peritonitis, accompanied by tympanitis, which speedily yielded to the internal exhibition of ice and a few doses of calomel. The external wound could not heal, on account of the gaping of the uterine opening, which kept apart the adherent margins of the divided skin, and thus converted the wound of both integument and uterus into a single symmetrical aperture. On the 1st of August, (the period at which the last report is dated,) the uterine aperture was rather more than half an inch in extent; and this diminution appeared to be solely dependent on the gradual contraction of the uterus, inasmuch as the healing process itself was not then contemplated. Nevertheless, the patient left her bed daily, and her general health was good. She herself suckled her child, which was thriving well.

[An interesting point connected with this case is the occurrence of peritonitis after the fourth operation, in which instance alone, it will be remarked, the serous sac was *not* opened, and was therefore unexposed to the influence of external agents, as the atmospheric air, &c.

A medical friend suggests the expediency, in cases of hopeless deformity of the pelvis, that the fallopian tubes should be divided during the Cæsarean operation; in the event of a successful result to the operation, this proceeding would, of course, do away with all risk of a second.]

Pfaff's Mittheilungen.

Opium in large doses to prevent inflammation. M. Malgaigne has communicated to the Academy of Medicine his first results from a new method of preventing traumatic inflammation. After wounds from accident or in operations, the principal enemy to be feared is inflammation. This traumatic inflammation, according to Mr. M., consists of but two elements, the nervous element or the pain, and the inflammatory engorgement. It occurred to Mr. M., that by paralyzing the former the latter might be prevented. With this view he has given the gummy extract of opium in the dose of from six to ten grains a day, continuing as long as inflammation is to be feared. The results so far have exceeded his hopes; he has prevented in the four cases in which he has administered the remedy, fever, local inflammation, and even pain.—*Bull. Général de Thérapeutique*, 15 Nov. 1837.

We are pleased with observation in medicine, and with experiments tending to improvement in practice—every thing which tends to increase the certainty, the facility, expeditious, ease and economy of ameliorating or removing the ills to which humanity is subject: but we are often led to regret the unguarded direction which the minds of some men take for effecting these good purposes. It should be the first purpose of the practitioner, to guard against doing harm. When this precept is neglected, it is true that we may still profit by their experience, but in order to it, we will often have to take the back track, and profit by the effects of their errors, which we find in the trail they have marked out. Here we may find what to avoid, and here receive stronger lessons than we had before received. But it is most stupid, to design those changes in practice which, instead of actual improvements, are, when effected, retrogressions. We had occasion to remark somewhat

in this manner on a former occasion, when noticing the use of opium in large doses, for the cure of rheumatism. We have similar objections to the experiments of M. Malgaigne in the present instance—the injuries done by the remedy adopted. Six to ten grains of the gummy extract of opium a day, is rather worse, in our estimation, than a quart of good West India, or Cognac, for it has other injurious effects besides high stimulating powers. But in addition to this, we may well object to the very purpose of this prescription; at least in its general application. It is the prevention of traumatic inflammation; whether from accidental wounds or operations. It is true that in some wounds, and some operations, the height and extent to which inflammation may tend is to be looked to with much anxiety; but it is equally true that the present highly improved antiphlogistic plans of treatment are found competent to every end which may be hoped in the case, as possible under the circumstances. Look at the success attending lithototomy and the cæsarian operation at the present day. Who now dreads fatal inflammation from the former, with the opportunity of preparation, and with proper enforcement of regimen afterwards. And are we not now constantly informed of the successful termination of the causes of delivery by the cæsarian section, *without preparation*, even to the fourth and the fifth time, in the same individual? These are surely amongst our most formidable operations for the dangers of inflammation.

But we would ask, who will say he can cure a wound, whether accidental or designed, without inflammation? To whom is this natural agency of the system not the handmaid on which he most relies? and who has not in practice the chief purpose of contenting himself with merely favouring, by a removal of those circumstances which are calculated to prevent its natural salutary tendencies of the increased action nature institutes? We apprehend that no surgeon is to be found on this side of the atlantic who does not operate on, and adjust parts, &c. with the view of simply enabling the natural efforts of the system or of the part, to effect the cure.

We think the Royal Academy, all medical societies and journals, should watch well these kinds of *improvement* in medicine; and if experimentors fail to see more than one thing at one view, academies, societies, &c. should not fail to do so.

Carbonic Acid Gas in Dysmenorrhœa. The following articles, the first from the Medico-Chirurgical Review and the Bull. Gén. de Thérapeutique, and the second from the American Journal of Pharmacy and the American Medical Library and Intelligencer, we think proper to present together, to our readers. Nothing can be more desirable than useful information on the

subject of dysmenorrhœa, not only on account of the immediate distress attending the periodical returns of this disease, but the difficulty which the profession has ever found in its permanent cure, and the extreme importance of that cure to the life of those who are chronically afflicted with it. We hope to be informed of the successes of the remedy related to, amongst American practitioners. We have much blame to attach to most of American practitioners in relation to their management of those complaints of females which are peculiarly disagreeable, distressing and dangerous. We know not why it is that this blame is so much merited—whether from wilful neglect of attention to those distresses, or from the great sin of torpid ignorance from obtuseness of intellect, or a wilful neglect of the study of them. Nor are we less at a loss to determine which of these sources merits the greatest reprobation. Certain it is that the profession is far behind its progress in other particulars, in the understanding and the treatment of most of the uterine affections to which females are subject. It is passing strange that afflictions so severe and dangerous at least, as are all those which interfere in the least with the natural functions of the uterus, should be passed lightly from the care of the profession; and especially when visited alone on the finest sensibilities and deepest interests of humanity.

Dysmenorrhœa relieved by Carbonic Acid Gas. Every physician is aware that some females suffer most severe pains in the uterine region, for one or more days before each appearance, and not unfrequently also during the continuance of the catamenial flow. Young girls residing in large towns are perhaps more subject to this distress than any other females;—their systems being often unusually irritable, and this excess of irritability being very generally associated with constitutional weakness. It is a common remark that such girls menstruate earlier in life than such as are robust, and those who reside in the country. Under these circumstances, marriage will often aggravate the dysmenorrhœa;—the generative organs being apt to be so highly excited by coition, that the accustomed monthly discharge, intended, no doubt by Nature as a means of local relief, is either stopped altogether, or is only very sparing and uncertain. The treatment of such cases is often extremely difficult. The employment of the ordinary emmenagogues is very generally pernicious, and even the application of leeches to the feet, or to the vulva, will sometimes only aggravate the sufferings. Professor Mojon, of Geneva, assures us that he has used injections of carbonic acid gas per vaginam, with the most soothing effects. Like Rasori and Borda, he considers this gas as a powerfully depressing or contra-stimulant agent; and it was by reasoning from its known effects, as such, that he was led to try its effects as a local application to the womb in painful dysmenorrhœa. The gas is easily obtained by pouring diluted sulphuric acid on some pieces of chalk into a flask, (which ought to be provided with a double orifice) like an inhaling apparatus; a curved flexible tube is fitted on to one of these, and when the gas is freely disengaged, the extremity of the tube is to be introduced into the vagina, and the fumigation is to be continued for five or six minutes. This remedy may be used two or three times in the course of the day.

M. Mojon assures us that he has employed this mode of treatment in a great number of cases, and very generally with decided advantage. Not

only was the pain almost always relieved for the time, but also the menstrual flow, in future, became more regular in its return, and more copious in its quantity.—*Am. Jour. Med. Chirurg. Rev.* from *Bull. Gen de Therapeutique.*

Observations on the Employment of Carbonic Acid Gas as a Therapeutic Agent, by Wm. R. Fisher, M. D., Professor of Chemistry and Pharmacy in the University of Maryland. In the twenty-third number of the first vol. of the "American Medical Intelligencer," (pp. 415 to 417,) occurs an abstract from the memoir of Dr. Furnari, relative to the employment of carbonic acid gas in medicine. In this abstract the use of fumigations of this gas to various diseased tissues is spoken of, and the intravaginal employment of it in amenorrhœa and other uterine diseases warmly recommended. It is not my purpose to comment either upon the pathological considerations which have induced this practice, or to offer any views as to its efficacy; but an apprehension lest some injury may result from the application of the gas to tissues of such delicacy and sensibility, unless the administration be attended with proper precautions, induces me to ask the attention of the profession of this country to the following considerations. The danger, which I apprehend, may arise from the following paragraph:—"These fumigations are prepared, in cases of uterine pains, by receiving into the vagina the free extremity of a gum elastic canula, surmounted with a nipple-like end, through which is passed carbonic acid gas, which is disengaged from carbonate of lime by means of dilute sulphuric or hydrochloric acid." . . . . . "Nothing is more simple, less expensive, and more easy to practice than this operation."

It is true enough that there is no simpler operation in chemistry than the disengagement of carbonic acid gas, and the subsequent distribution of it in any direction by means of an elastic tube; but did the author bear in mind that nascent gases, especially those resulting from the action of an acid, always carry over with them large quantities of the acid in the form of vapor, intimately associated with every bubble that rises? Is there not room for apprehension, that the gas fresh from the materials, to the reaction of which its escape is due, will carry over a sufficient quantity of the mineral acid to act, if not as an escharotic, at least as a powerful rubefacient or stimulant to the delicate tissues for whose advantage it is directed to be employed?

So great have been my apprehensions upon this subject that I have felt it my duty to caution the profession against this effect immediately upon the perusal of the paragraph quoted; and I am induced at the same time to suggest a means by which the efficacy may be tested, without exposing the patient to the risk of injury from the direct action of the strong mineral acids.

It is essential that the gas employed for this purpose should be perfectly free from the sulphuric or hydrochloric acids, by means of which it is liberated from its solid compound; and this degree of purity can only be accomplished by washing the gas in water. The employment of an apparatus for this purpose may be somewhat inconvenient in the country; but it would be far better to abstain from the use of the gas altogether than to incur the risk of irritation, or even inflammation, which might ensue from its employment in an unwashed state. I shall endeavor to arrange some simple apparatus for this purpose, in which, if I should be successful, I will forward you a drawing and description of it. At present, the only means which suggests itself, is to employ for the purpose Woulfe's bottles, connected with each other by a bent tube. In the one, the carbonate of lime is to be placed; in the other, water enough to cover the end of the bent tube which connects the bottles. The elastic tube should then be connected with the open mouth of the second bottle, in which the water is contained; and the whole apparatus being prepared, the dilute acid may be poured into the first bottle containing the car-

bonate of lime ; the mouth of the bottle being immediately closed. Effervescence will immediately take place, and the gas proceeding through the bent tube will be compelled to pass through the water in the second bottle, be deprived of all contamination, and forced out of the elastic tube by the pressure from behind, arising from the constantly accumulating pressure in the bottle wherein it is disengaged.

The chief difficulty attending the use of this would be obtaining the Woulfe's bottles ; in all other respects no improvement or simplification would be required. The patient could readily perform all the manipulations herself, after having been once instructed in the proper proportions of the materials to be employed.

A word or two as regards the acid to be used. Hydrochloric acid is decidedly preferable to sulphuric acid, on account of its yielding a soluble salt with lime, which may be removed from the generator with far greater ease than the heavy, adhesive, insoluble sulphate ; and on this account it should always be employed. The quantity of carbonic acid yielded by limestone or chalk, if of tolerable purity, is always the same, whatever be the acid employed ; and I annex the quantity by weight which is required to produce a gallon of carbonic acid gas at the average temperature of 60° F.; should the temperature range above 60° F., the volume of gas will be somewhat increased. The paper from which I quote the above paragraphs, gives no idea of the quantity of gas required ; but it is decidedly an advantage to the correct observer to be acquainted with the exact amount employed, as he may thereby be enabled not only to form a much more correct estimate of its influence, but to increase or diminish the quantity in definite proportions as the indication may require.

In large cities, where carbonated waters are manufactured on a large scale, the most easy plan of all to obtain the use of this new therapeutic agent, and in a perfectly pure condition, is to affix the elastic tube to a bottle of soda water, as it is called, and having introduced the canula into the vagina, to compel the gas to pass over by immersing the bottle in a basin of boiling water, by which means a quantity of gas would be obtained equal to about five times the volume of the soda water employed.

The exact quantity of pure carbonate of lime required to furnish a gallon of carbonic acid, is 242.86 grains, near enough to half an ounce to allow that weight to be substituted for it. To decompose this quantity, a fluid ounce of common muriatic acid will be sufficient. By adopting these proportions the gas may be administered in definite doses, as it were, and its effects be much more satisfactorily observed and determined.—*Am. Jour. Pharm. Am. Med. Lib. and Intelligencer, Baltimore*, 1838.

Radical cure of Varicose Veins and of Herniæ by Acupuncturation. We have before noticed with great pleasure the successful application of acupuncture and the small ligature to the cure of varices, hydrocele of the tunica vaginalis, neck, &c. We have now the pleasure of calling the attention of the profession to the successful application of a similar practice, again to varicose veins, and to the herniary sac.

The common operation for herniæ with the knife is itself so formidable that it has not been prudent to adopt it *merely* with curative views ; but it has, as a matter of prudence, been held in successful use in cases rendered irreducible by strangulation, incarceration, &c. Whilst, therefore, it has been a valuable acquisition to surgery, it has not been available for the treat-

ment of ordinary cases—the great frequency of which we have had occasion to notice in another place. We congratulate the profession, therefore, on the demonstration of success offered by M. Bonnet, of a simple and safe plan, of operation, which none may dread or find difficulty in adopting. It seems to be calculated to afford, with little pain and danger, in a short time, and with a good share of certainty, all the success, and upon the same principle too, which has been desired by the truss-makers who have so generally failed to effect their desired end—a radical cure. We commend the practice of the surgeon of the Hotel-Dieu at Lyons to the favorable notice of American surgeons.

M. Bonnet, chief surgeon of the Hôtel-Dieu at Lyons, informs us that he has treated eleven cases of varicose veins by introducing pins through their cavities, and allowing them to remain there for some time. Nine of these cases were cured. He has applied the same treatment to herniary sacs; and the following is a short account of his method, and of the success which he has obtained from it. He passes three or four pins through the herniary covering close to the inguinal ring, and in order that they may exert a certain degree of compression, as well as of irritation, on the sac, he twists upwards their points and heads, so as to give them a circular direction.

Caution is necessary not to injure the spermatic cord. The inflammation and pain commenced usually on the third or fourth day after the operation, and the pins were removed a few days afterwards. M. Bonnet has treated four cases of inguinal herniæ by acupuncturation. In two of these, the herniæ were small, and three weeks sufficed for the cure. The third was more troublesome. It occurred in an old man 67 years of age; and in him the hernia descended to the bottom of the scrotum, and was with difficulty kept up by a truss. Six needles were used. After a months treatment, this patient could walk about, without any tendency of the viscera to descend. In the fourth case, the hernia was of thirty years standing; no truss could keep it up; the inguinal aperture was large enough to admit "l'introduction de cinq doigts reunis," and the tumour descended a considerable way down the thigh. Five weeks were necessary for the cure. We are assured that all these patients could cough and walk about freely without any escape of the bowels, and that the inguinal ring was so plugged up, that it could no longer be distinctly recognized.—*Ecl. Jour. Bulletin de Therapeutique*, from *Med. Chir. Rev.*

Kreosote in Gonorrhœa and Gleet. Dr. Dick of Glasgow, has employed Kreosote in the chronic stages of gonorrhœa and in gleet; and thinks its beneficial effects are more obvious than those of copaiba. He administers it in doses of 2 drops a day, with loaf sugar, beaten into syrup, with water. [*Am. Jour. from Ed. Med. and Surg.*

This is an important fact to the practitioner, and we hope it will be soon confirmed by the observation of other practitioners; for however loathsome to the feelings of the practitioner, the treatment of this class of diseases may be, still it has to be done; and in order to this, he now has to pay enormously for copaiba, the use of which the kreosote is designed to supplant.

Very large Calculus passed by a young Woman without operation. A woman, 18 years of age, who had for seven years suffered from great pain in the pudendum, &c. whilst sitting upon a pot-de-chambre, endeavoring, by very forcible efforts, to discharge her urine, and which exertion she continued for ten minutes, passed into the vessel a calculus of an oval form, 2 5-8 inches long, 1 3-8 inches broad, and weighing 651 grains.—*Am. Jour. Guy's Hospital Reports*, April, 1838.

Injection of nitrate of silver in the treatment of chronic vesical Catarrh.—There is recorded in the *Bulletin Gen. de Thérapeut.* (Jan., 1838,) by M. Alquié, a case of chronic cystitis, which resisted, for three years, various means, and which was cured in a few days by an injection of a solution of nitrate of silver, in the proportion of one grain to four ounces of distilled water. The urine was first evacuated by a silver sound, and the solution then injected into the bladder through this instrument, and allowed to remain for five minutes. The sound was then withdrawn and the injection was evacuated by the patient without any pain. This operation was repeated for four days in succession, after which period the patient was completely relieved.

The remedy is worthy of further trial.—*Am. Jour.*

Useful application to Bed-Sores. A correspondent of the Bulletin Générale de Therapeutique recalls to the attention of medical men a very excellent, and easily prepared, local application for those troublesome and distressing sores which are so apt to occur in bed-ridden patients.

It is unnecessary to allude to the frequency of this annoyance in certain cases of protracted disease, more especially of obstinate fevers, of phthisis, &c., and to the extreme difficulty of counteracting them. The late M. Autenreith, of Vienna, was much in the habit of using the thick sedementary deposit obtained by adding the liquor plumbi, drop by drop, to a strong decoction of oak bark, (in short, a *tannate of lead*,) as a topical remedy to bed-sores, with great success. The super-natant liquor being decanted off, the sediment is easily procured; it is then to be spread on linen, as we do with an ointment. The application to the abraded surface should be repeated every night and morning.

Dr. Tott, a countryman of M. Autenreith, has, of late years, used this remedy with very satisfactory effects. In some cases, where it did not seem to agree, he mixed a certain portion of the *tannate* previously dried, with simple ointment, (two drachms to one ounce,) and he found that the sores often healed readily under the use of this cerate.

We can bear our testimony in favour of the good effects of this application to bed-sores. In our own practice we have prepared it by mixing together the liquor plumbi and the common tincture of kino.—*Lond. Med. Chirurg. Rev., July*, 1838.

MEDICAL INTELLIGENCE.

MEDICAL PRIZE.

The Medical Society of Augusta, Ga. offer a Prize of Fifty Dollars, or its equivalent, to be designated by the successful competitor, for the best *approved*, original Essay,

On the use and abuse of Calomel, as a therapeutic agent.

The following are the arrangements adopted by the society:

1. The Essay shall not exceed 40 octavo pages.

2. Essays, intended for the competition, are to be directed, *free of expense*, "To the Secretary of the Medical Society of Augusta, Ga." and must be in his possession by the 1st day of May, 1839. Each essay must be endorsed with a *motto*, which must be also on an accompanying sealed letter, containing the name and address of the writer.

3. The Medical Society will, as a body, proceed to the reading and inspection of all the essays received by the Secretary, as soon as practicable after the 1st day of May, 1839, and will determine by the vote of the majority, on the successful essay. After such decision, the letter bearing the corresponding *motto*, will be opened, and the essay published under the name of the author, in the Southern Medical and Surgical Journal.

4. Should none of the Essays be judged worthy of the prize proposed, they will remain in the hands of the Secretary, subject to the order of their authors, for three months, the names remaining under seal; after which, if not otherwise directed, will be considered the property of the Society.

☞ The Medical journals of the United States, and also the Literary periodicals, are respectfully requested to give notice of the same by publishing the above.--[*Extract from the Minutes.*

Prospectus of the American Phrenological Journal and Miscellany. It is a remarkable fact, that while the converts to the belief that Phrenology is true, have, within a few years, most astonishingly multiplied, there does not exist on the American content a single periodical whose object is to advocate its truths, repel the attacks made upon it, or answer the enquiries which even candid persons are disposed to make concerning it. And this is the more surprising since the materials already existing and daily augmenting, with which to enrich such a publication, are almost inexhaustible.

The science of medicine has its appropriate media through which to present to the profession and to students all the new facts which occur, and all the new theories which are advocated in the various institutions of medical science throughout the world; and it is proper that it should be so. The same is true of the other leading professions of law, and of divinity. But, notwithstanding the important bearings which phrenologists know their science to have on medicine, and divinity, and law, there is no publication through which, as the appropriate channel, those bearings may be pointed out. It is true that some newspapers, and also one or two works of a less ephemeral character, do occasionally admit articles in favor of phrenology: but these do not meet the *present* necessity. A periodical which is avowedly *phrenological*—one, whose pages shall constitute a permanent depository of facts, and which shall be open for the expression of opinions and the record of principles connected with those facts, is *now* needed: and a strong feeling of this necessity, together with a belief that such a work is extensively demanded, and will meet with encouragement and support, has induced the publisher to present the prospectus of "The American Phrenological Journal and Miscellany."

The object of this work will be to preserve from oblivion the most interesting of the very numerous facts, confirmatory and illustrative of the truth of phrenology;—to show the true bearings of this science on *Education*, (physical, intellectual and moral;) on the *Medical Treatment of the Insane;* on *Jurisprudence;* an *Theology*, and on *Mental and Moral Philosophy*. On all these subjects there is encouragement to hope for contributions from several able pens: while the resources of the editor himself will not, it is hoped, be found inconsiderable.

The religious character of the work will be *decidedly evangelical:* for one prominent object in giving it existence is, to wrest Phrenology out of the hands of those, who, in ignorance of its true nature and tendencies, suppose that they find in it an instrument by which to subvert the truths of revealed religion, and loosen the bonds of human accountability, and moral obligation. A frequent subject of discussion in our pages will therefore be, *The Harmony between the truths of Revelation and those of Phrenology.* And on the subject of the religious bearings of our science we respectfully solicit the enquiries and objections, not of cavillers, but of the truly candid, and the conscientiously fearful. *Such* correspondents we shall always welcome to our pages, and they will always be treated with kindness; as, also, will honest and respectful objectors to Phrenology. But the captious and cavillers will ensure to themselves our silent contempt; and the ignorant pretender, who seeks to overthrow a science which he will not be at the pains to investigate, may expect a merited rebuke.

As our object is the establishment of Truth, we solicit the communication of facts which are supposed to militate against Phrenology; and we pledge ourselves to publish them, in all cases in which we have satisfactory vouchers for their genuineness; and in which all the facts in the several cases are furnished to us. But as we must form our own judgment of the cerebral development in all cases on which we express our opinions, it is obvious that we cannot receive, in these instances, the opinions of non-phrenological or anti-phrenological writers, as to the degree in which the several organs are developed:—we *must*, in every such case, see *the head or skull, or a cast of it*, properly certified to be true to nature.

Original Essays on Phrenological subjects will form part of the Journal; as also, Reviews of Phrenological and Anti-Phrenological Works: nor shall we fail to present to our readers such matters of interest and importance as may be found in foreign Phrenological works of standard excellence, and which are not generally accessible to the American public. Our facts we pledge ourselves shall be *bona fide* such; and, as often as practicable, we

shall accompany our descriptions with illustrative cuts; indeed, we intend and expect that scarcely a number will be issued without two or more such cuts.

To encourage Phrenologists of talent (and especially professional men who are Phrenologists,) to enrich the work with their contributions, we offer for *accepted matter*, as liberal a compensation per *printed page*, as is usually afforded by the very first periodicals in our country: but the editor does not promise to endorse all which his correspondents may communicate; nor all which he may admit into the work. To error, if serious, and especially if it affect the interests of morality and religion, he claims the right of correction, in the form of reply, or of the suppression of objectionable matter:—and communications for which compensation is expected, must be so prepared as to be fit for the public eye.

In conclusion, we may be allowed to say, that the pecuniary value of each number will depend much on the extent to which the work is patronised. It is not with the desire or expectation of gain that it is offered to the community, but from moral considerations: from a desire to know and to promulgate *truth*. Hence should a large subscription list be obtained, a considerable proportion of the profits will be devoted to the enlargement and improvement of the work, without an increase of expense to the subscribers. More frequent illustrations and embellishments will, in that case, be inserted, and the attractions of the work be thus multiplied.

Terms.—1. The American Phrenological Journal and Miscellany will be issued monthly, commencing on the 2d of October next.

2. Each number will contain *at least* 32 octavo pages, making a volume of not less than 384 pages; corresponding in point of mechanical execution with the best periodicals of the day

3. The work will be furnished to subscribers at $2 per annum for a single copy; $5 (current in Philadelphia or New York) for *three* copies, or $10 (current as above) for *seven* copies sent to one address. To Clergymen and Theological Students, single copies will be furnished at $1.50 per annum; and to companies of eight or more of such, it will be reduced to $1.25 per copy, if sent to one address, and the subscription forwarded to the publisher free of expense.

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SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] FEBRUARY, 1839. [No. 5.

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

A Treatise on Malignant Pustule. By WM. M. CARPENTER, A. M. M. D. Professor of Chemistry and Natural History, in the College of Louisiana, at Jackson.

Beautiful as is the structure of man, and perfectly adapted as it may be, to the place which it fills in creation, many of the most serious diseases to which he may be subject, arise, as a necessary consequence of this refinement of organization; for, it is with the animal system, as with machinery, the more complicated it is, the more liable it becomes to derangements, and these aberrations are called disease; and it is a general law of nature, that when an organized being has filled its station a certain time, performed certain functions, and perhaps become unfit for their further performance, it shall give place to others. Man, whom we consider as the chef d'ouvre of organization, soon passes through his bright and ephemeral career, and becomes a denizen of the past; while some of the lower order of animals, as the toad and tortoise, seem to be almost "impervious to the shocks and mutations of time; generations flourish and decay, age after age passes by, and they still drag on their languid and unsympathising existence, denied all the pleasures of life, save life's passive and dream-like perception. They seem to bear a charmed life; the common causes of dissolution cannot quench in them, life's slug-

gish spark! the inexorable death that spares not pomp and beauty, passes by things to which death could bring so insignificant a change."

There are, however, diseases which have no perceptible connexion with those laws of organic life, or with the wear and tear of organism; they shorten the period of man's natural existence, but do not seem to have emanated with the rest of his ills from the box of Pandora, nor naturally to form a part of his rich heritage of misery. Among these, we find those diseases called epizootic; they belong properly to the brute creation, and often make great havoc among the domestic tribes of animals. But this destruction of property is not the circumstance which calls for our attention; the fact of their occasionally making man their victim, gives them a claim upon us, and renders them worthy the attention of the medical profession.

Standing in this list, is the disease termed "Charbon," the one in which we are at present principally interested. It frequently occurs as an epidemic among domestic animals, and is sometimes communicated to man, by inoculation or otherwise, and it then receives, by consent of surgeons who have written upon the subject, the appellation of "Malignant Pustule."

History. It is said to have been observed in this country (Louisiana,) at an early period after its settlement by the French and seems to have made its appearance among the deer feedin among the salt-marshes, near the sea, west of the mouth of th Mississippi river. It afterwards attacked the cattle of the plan ters on Bayou Lafourche, returning annually, and gradually extending its ravages over those districts, in which the benefits of grazing had been appreciated, and turned to account by the intelligent and enterprising farmer.

This disease, though it appears to have been of comparatively early occurrence in this region, and is now seen in nearly every part of this state, seems not to have been even noticed in the medical annals of America.* Some of the British surgeons

* This treatise was presented to the Faculty of the Medical College of Louisiana, as a thesis, in April, 1836. Since that time, I have had the pleasure of perusing a most excellent article on this subject, in the American Journal of the Medical Sciences, by Dr. C. W. Pennock, who has described this disease in a most lucid and beautiful manner, and has given us many valuable cases.

mention it as endemical to some of the southern provinces of France; but they all coincide in saying that it is never seen in England. It is, however, very common in some of the provinces of France, and occurs very frequently as an epidemic in Lorraine, Franche-Comté and Burgundy. In these countries, we learn from writers on the subject, it is very common in low and marshy regions, becoming epidemic after the great heats of summer, and when from inundation of the meadows, the grass becomes injured, is loaded with dead insects in a putrifying state, and is thus rendered unwholesome, and produces in the animals that feed upon it, diseases of a low and typhoid or charbonic type; the virus of which, when inoculated on man, produces the disease called Malignant Pustule.* The epidemics of Charbon among cattle, are recognised by planters, by the animals being attacked, when in full health, by a swelling, often seated about the throat, and dying in a few hours, if some efficient remedy is not immediately applied. The common remedy, and the one which seems to be nearly always used with success on animals thus attacked, is, to burn the part with spirits of turpentine.

If an animal which has died in this way be skinned, as is sometimes the case in neighbourhoods where this disease is not common, and the people not familiar with it, fatal consequences are the frequent results, to those who do it. Dogs, buzzards, and all animals which feed upon the flesh, often die of the same disease.

Causes. Though the causes of this disease are sometimes hidden, and the origin in many cases equivocal, there are some circumstances which are almost invariably connected with the commencement of the epidemic in animals, and have been assigned by French authors as causes; they are, low and marshy districts, and very wet and hot seasons. That these may be predisposing causes, is, perhaps, probable; but some other cause, efficient to the production of the disease is still wanting, as will be hereafter shown.

I do not believe that the malignant pustule ever occurs, spontaneously, in the human subject, although M. Bayle addressed a dissertation to the Medical School at Paris, in 1810, in which he gave a series of observations, which he thought went to prove,

* Boyer, Maladies Chirurgicales.

that the disease might develope itself independently of contagion. But if we consider, 1st, that he says, that it was epidemic among the cattle of a village in the immediate neighborhood of the place at which his observations were made, at the same time with the pustular epidemic that he was observing; 2nd, that the disease always presented itself on some part habitually uncovered, and generally on the face; 3rd, that those persons who were confined within doors were never attacked by the disease—we will readily perceive, that his observations could not have warranted his deductions.

The malignant pustule, is, generally, a purely local disease, appearing, in the majority of cases, to have a local and external cause, as the contact of substances that have been impregnated with the virus arising from carbunculous diseases, or from touching a part that is the seat of malignant pustule. The chief agents, however, of communication, are, probably, flies, which have fed upon the carcasses of animals dead of charbon. There are many well attested cases of the disease having occurred after the bite of these carnivorous flies; which have led many to suppose that it was a peculiar insect whose sting, or bite, produced the disease, whereas they only inoculated it from other animals.

Dr. Samuel Cooper, speaking of it, says,* "The malignant pustule, if the accounts of its origin be correct, is a singular and peculiar disease; for, instead of proceeding from internal causes, like all other carbuncles, it arises from contagion, derived from animals affected with malignant pustule, or carbuncular diseases. The infection is represented as being communicated to the human subject by contact, respiration, deglutition, or the bites of insects. * * Notwithstanding the multiplicity of authorities in support of this account, some doubts may be rationally entertained, respecting its accuracy, when it is remembered, that the alleged causes exist in England, yet we have no disease which corresponds exactly to the malignant pustule. The French writers specify want, poverty, uncleanliness, marshy situations, and the autumnal season, as predisposing causes. Were all these circumstances, however, adequate, of themselves, to the production of the disease, it would certainly be seen in some parts of this kingdom. There must, therefore, be other things

* Surgery, vol. 1, page 32.

which contribute to its production, and render it endemical in the southern provinces of France."

In the disease under consideration, there is no predisposition, nor is the supposition of the existence of predisposing causes warranted; for whenever inoculation is effected in man, the disease will occur, independently of idiosyncracy or predisposing causes.

It may be asked, whether the introduction of the virus of charbon into the intestinal canal, would produce the same delcterious effects on the animal economy, as when applied to the external surface? This is a problem very difficult of solution. It has been maintained by many, that the virus has no deleterious effect when applied to the internal surface; and there are many cases on record, which have been brought up to prove the truth of this assertion. Morand, in his Opuscules de Chirurgie, speaks of two butchers of the Hotel Royal des Invalides, who were attacked with this disease, after having killed two beeves, which had been brought from a distance, but which were fat and appeared healthy: the flesh was well tasted, and produced no ill effects on those who ate of it. Duhamel reported a parrallel case to the Academy of Sciences: and the case from Boyer, appended at the end of this treatise, is still further illustrative of this supposition.

On the other hand, Eneaux and Chaussier, in their "Précis sur la pustule maligne," give facts which conflict with those abovementioned, and tend to show, that the charbonic virus taken into the stomach, has caused gangrenous inflammations of that viscus, and prompt death: that it is less active when taken into the lungs by respiration, but still producing a malignant fever which terminated by fetid evacuations, or other disagreeable effects of this kind of fever. Orfila, also, relates many cases: he says that "a boy undertook to skin an ox that had been killed at a tavern in Gatinois, because it was sick, and inadvertently carried the knife to his mouth. The tongue soon swelled; he experienced a tightness about the chest; the body was covered with pustulæ, and on the fourth day he died, affected with general gangrene. In the 34th number of the American Journal of Medical Sciences, page 481, we find, under the head of "Observations on Malignant Pustule," an extract from Hufeland's Journal, a communication made by Dr. Wagner, on an epidemic

which prevailed at Striesa, in Prussian Saxony, in 1834, which killed the animals attacked by it in a very short time. He says that the animals all burst, and exhibited the following appearances: the abdomen inflamed, the spleen gangrenous and putrescent, consisting but of a membrane in the form of a sack, containing a thick black liquid; in several places about the neck, were œdematous tumours. M. Wagner gives it the name of "gangrenous spleen," (Milzbrand,) from the state of that organ, as found in all the infected individuals examined; and to the septic principle which appears to generate the malady, "virus of gangrenous spleen, (Milzbrand gift)."

He says, that the disease was communicated to man, not only by inoculation, but in many cases also by ingestion: that in some cases, the flesh when eaten produced only serious indisposition, without any external eruption.

The disease described in this article, is frequently epidemic in some parts of the continent of Europe, and is described by French writers, under the name of "sang de rate"; it is very different from the epizootic, which gives origin to the disease commonly called by surgeons malignant pustule. Dr. Wagner seems to confound the malignant pustule, with some of the other carbunculous affections, which differ from it very widely, but which resemble, in many of the main points, the disease described by him. When we take these facts into consideration, and many cases of equivocal origin, which have occurred in this country, it is rendered highly probable, that it may be communicated in this way, or, at least, that this principle, whatever it may be, that produces the disease under consideration by inoculation, may, when applied to the internal surface, produce carbuncular diseases of a serious character. Let this be as it may, the inhabitants of districts in which this disease is epidemic, cannot be too careful on this point, and should always reject flesh or milk to which the least suspicion is attached.

Symptoms. In order to be more exact in their descriptions, the French writers have divided the disease into four periods: but the symptoms run into each other very much; and in this country there are but few cases in which the disease passes regularly through all the stages. The following is an abridged translation from Baron Boyer's Maladies Chirurgicales, with

such modifications as I have found necessary, in order to adapt them to the disease as occurring under my own observation.

First period. "The septic virus having been applied to the surface, penetrates the integuments; but its action is at first so feeble that it rarely attracts any attention; in fact, there is, as yet, neither redness, heat, nor tension, in the part which is the seat of inoculation; the subject experiencing only a slight itchiness or pricking, which is but occasional: soon the epidermis becomes elevated in the form of a serous vesicle, at first of the size of a millet seed; it augments gradually, becoming brownish; opens spontaneously, or is torn by the patient in scratching; a few drops of a reddish serosity escapes, and the itching ceases for some time, or gives place to smarting and pain.

Second period. "The poison passes the proper skin, the irritation ceases, and there may now be felt a little, hard, and circumscribed, moveable and flattened tubercle, about the size and shape of a lentil. The colour of the skin is not yet altered, except in the centre, and under the vesicle it is yellowish, or a little livid, as is seen in some of the psoric or venereal pustules; the patient now experiences sensations of heat, smarting, and gnawing; the engorgement spreads; the parts become turgid, and a more or less extended circle is formed around the spot, the periphery of which is sinused and salient, and always covered with little phlyctenæ; filled with an acrid serosity. The disease now assumes a dangerous character. It is at this time that the attention of the person and his friends is called to it, as something serious, and the assistance of art becomes necessary. The central tubercle becomes brown or blackish, and the gangrene, which has already taken place, rapidly spreads.

Third period. "The gangrenous point quickly extends in a sudden and most alarming manner; the vesicular areola enlarges, and forms around the gangrenous part an elevated ring, which makes it appear sunken in the centre; the engorgement has its seat principally in the cellular tissue; it is neither œdematous nor inflammatory; it has more the character of emphysema, which it similates, sometimes, still more closely by the crepitation, which no doubt depends upon the gangrene, as it is only perceived after this has made considerable progress; and it has been said (by Boyer) never to accompany this disease. The tumour is hard and elastic, and the skin is red, erysipelatous and

shining. The heat and pain give place to a numbness and sensation of weight, and the mortification extends insidiously in the subcutaneous cellular tissue.

Fourth period. "This period varies much, according as the termination of the disease is fatal or favorable; if the former, the disease extends to the neighbouring parts, the engorgement becomes enormous, and the mortification penetrates deeply." Soon symptoms of internal disease are developed, and the appearance of ataxic or adynamic fever of the worst character, shows that the circulatory and nervous systems are implicated, and it is this participation that leads the patient to the grave. The pulse is now small and concentrated; the patient is extremely anxious and restless, with a feeling of faintness and of approaching dissolution; the tongue becomes dry and brown; an obscure delirium sometimes supervenes, but this is, by no means, a constant nor even a common symptom in the disease as it occurs in this country; the patient often retains the powers of his mind, unaltered, to the last moment of his existence.

When to the contrary, the issue of the disease is favorable, an inflammatory circle, of a lively red, appears around the eschar; the engorgement diminishes; the patient experiences a sensation of heat in the part, accompanied by throbbing; the pulse becomes regular and healthy, and instead of the small, tense or varying pulse, we have it full and soft; the patient regains his strength; suppuration is established between the inflammatory circle and the eschar, which separates from the living parts, leaving an excavation which is gradually filled up by granulations.

Diagnosis. The only diseases with which the malignant pustule can be confounded, are the carbunculous affections; from these it may be distinguished by many circumstances. Carbuncles may attack an individual in several points simultaneously; the malignant pustule is, perhaps, almost invariably single; though there is no doubt, if inoculation were effected in more than one place, there would be as many pustules as places of inoculation. The former is always accompanied or preceded by fever, or some other indisposition; but the malignant pustule is at first a local disease, and febrile symptoms only supervene after the disease has made considerable progress. They also differ as to their cause; the carbuncles always originate in, or are connect-

ed with, some idiosyncracy or peculiar state of the general health. Whereas, the malignant pustule has, as has been already stated, a local cause, and is not essentially connected with a constitutional affection. The peculiar, elevated, and phlyctenous border, is, however, the most marked characteristic.

Prognosis. This varies from many circumstances; the seat of the disease, its progress, the constitution and age of the patient, and the peculiarities of the epidemic; but under whatever circumstances it may occur, it is a dangerous and highly disagreeable disease. Very hot or very cold weather, is said by the French surgeons, to aggravate the nature of the affection. It is said to produce abortion in women who are enceintes, and afterwards to prove fatal, in consequence of the debility which results from hemorrhage, and the fatigue of labor. There are many cases in which the most powerful agents are brought into requisition in vain; the disease runs on in defiance of our efforts to produce a change of action in the affected tissues; the swelling extends over the neighbouring parts, no inflammatory circle separates the dead from the living tissues; the low typhoid pulse soon points out the peril of the patient, and confirms the physician in an unfavourable prognosis. Fortunately, however, such is not the most frequent termination of the disease; and hope may be entertained after it has made considerable progress, that a change in the condition of the part may be produced, and that a corresponding change in the constitutional symptoms will follow.

Treatment. This must of course vary, according to the stage in which the patient is seen. In the earlier periods, before symptoms of ataxic or adynamic fever have shown themselves, and the disease is entirely local, the first indications to be fulfilled, are, to protect the surrounding parts from the action of the virus, and to concentrate this action to the point originally occupied by the disease. The means best calculated to fulfil these indications are, incisions, and the application of caustics; these then should form the basis of our treatment.

When the disease is first discovered, under the form, perhaps, of a vesicle filled with serum, it should be immediately opened by a free incision, in order to evacuate its contents; the surface should then be cleaned, and completely dried, by wiping with a soft cloth; and a pledget of lint soaked in the chloride of anti-

mony or liquid caustic potash, or a piece of solid caustic potash should be applied to its central part, covered with a piece of dry lint, a strip of adhesive plaster, and a bandage.

Baron Boyer remarks, that " caustics are curative agents of the greatest efficacy in this disease : they combine the advantages of concentrating the septic virus in an eschar, of limiting its activity, and preventing in a great measure its effects. They have another important effect : it is to restore the vital actions in the neighbouring parts, excite their sensibility, and thus bring on a true inflammation, which will mark the limits of the gangrene. The disease then loses in a great measure its malignity ; or, more strictly speaking, nature is restored to her prerogatives, and has sufficient power to resist the destructive effects of the virus."

Tavernier says, that the apparatus above recommended should be removed in about five or six hours ; but two or three hours is long enough : the eschar should then be dressed with pledgets of lint smeared over with some stimulating ointment or lotion. The next morning the parts should again be examined, and if the engorgement has not increased, and there be no new phlyctenæ, but only a moderate degree of tension and heat, there will be every reason to believe that the remedies have had the desired effect, and the disease is entirely destroyed. We should then promote, by every means in our power, the separation of the slough.

If, on the contrary, the parts are covered with new vesicles, or a hard and compact tumour has formed about the eschar, or much swelling, it will be necessary to return again to the caustics, with the precaution of removing the eschar, so as to be able to apply them to the parts not affected by the other applications. The best escharotics in these cases, are, caustic potash, the nitrates of silver or mercury, nitric or muriatic acids, chloride of antimony, or what has been preferred by many surgeons of distinction in France, the actual cautery ; this possesses many advantages, and when in skilful hands, is perhaps always to be preferred. In using the actual cautery, the iron should be massive, so as to ensure a deep burn, at least through the eschar already formed, otherwise its salutary effects will be almost entirely lost.

Incisions are of advantage, by procuring the discharge of the

extravasated fluids contained in the cellular tissue; and by permitting the remedies to act on the parts threatened by gangrene; but to obtain these advantages, they ought not to be too deep nor too superficial; when too deep they produce injuries on the living parts, thus increasing the liability to extension of the mortification, they favor the propagation of the disease to these parts; and cause a profuse hemorrhage, which might prove very inconvenient in the application of other remedies. When not sufficiently deep they do not divide the eschar down to the parts to which we wish to apply our remedies. When the actual cautery is used, incisions are nearly useless.

Such is the treatment that is adapted to the first stages of the disease, while the general health has not suffered; but later in the disease new and violent symptoms make their appearance, and unless they are successfully combatted, and a change can be produced in the condition of the part, the patient is almost inevitably lost.

When the disease has run on to the fourth stage, escharotics are much less efficacious than in the preceding stages; it is, however, still necessary to have recourse to them. We must make use of such topical applications as are fitted to restore a healthy action in the part—to develope a well conditioned inflammation—to induce an active suppuration to take place speedily and kindly, which may relieve the engorged vessels, and enable nature to cast off the disorganized tissues. The parts should be washed with camphorated alcohol, or what is perhaps better than almost any other application at this stage, Labarraque's chloride of the oxide of sodium; Dr. Pennock recommends an alkaline poultice, very highly, made of flour and lie; but the chloride of soda is perhaps preferable. A poultice of powdered cinchona would prove a good application, at this period of the disease—its efficiency in other kinds of gangrene is undoubted—diluted pyroligneous acid, or the highly lauded kreosot would, no doubt, prove valuable adjuvants at this stage.

In this stage the disease is generally complicated, as has before been stated, and we have to direct our treatment to combat constitutional affections of the most serious character. If the slough is extensive, or the suppuration very profuse, the indications will be the same as in typhus fevers from other causes—all the functions of life are languid; it is necessary to have re-

course to energetic measures to restore these functions to a proper condition, and to support the strength of the patient. The preparations of bark are the best adapted to the fulfilment of these indications; and whenever they have been made use of, they have produced the most satisfactory results.

It would be superfluous after what has been said, to say anything against the abuse of relaxing agents, purgatives, emetics, or general depletion; they are generally contraindicated; will seldom fail to aggravate the constitutional symptoms, and are always dangerous on account of the prostration they produce.

The condition of the bowels, should, however, particularly engage the attention of the physician, as a diarrhœa would be highly dangerous at this time; tending, as it necessarily would, to increase the debility, which even in the regular course of the disease, is often a formidable part of the affection.

Tonics cannot be too much insisted on in every stage of the disease, but more particularly when the part implicated is extensive, or the suppuration is profuse. Of the preparations of bark, we have already spoken: these should be applied in as many ways as possible, both to the affected part and taken internally. If the patient suffer from nausea, as is sometimes the case, the administration of quinine, in solution, by way of enemata, will of course suggest itself to the practitioner. In fact, this mode of administration is the best for quinine in the majority of diseases. The bark of the fringe tree (Chioranthus Virginica), the Chêne bleu of the French creoles, has been used by the inhabitants of the western portion of this state, with great success in the treatment of this disease. It is, hence, called by them charbon wood, "Bois de charbon"; a poultice is made of the bark, finely pounded, which is applied to the diseased part, while a strong and most intensely bitter decoction is given internally. It is considered by them as a specific, and no doubt has an admirable effect, and may be used with great advantage as a substitute for cinchona; for there can be no doubt that it depends for its efficacy upon its powerful tonic properties.

Diet. The diet in the commencement of this disease should be absolute; permitting only rice or barley water; but in the latter stages, when the gangrene is considerable, or the suppuration great, acidulated drinks, or any of the good wines diluted with equal parts of water, may perhaps be allowed: a vegetable

diet is always to be preferred in the commencement of the disease, to an animal food. By administering wine and animal food, in the early stages of the disease, when there is a tendency to gangrene, the febrile heat and frequency of the pulse are increased, always tending to increase the suppuration of later stages of the disease; the stomach is loaded, the patient becomes restless, sometimes delirious, and his situation is rendered dangerous, and too often hopeless. A less stimulating regimen gives the organs time for the performance of their functions, and affords an opportunity for the administration of as much of a bland and nourishing aliment, as patient's appetite requires, or his situation will warrant.

After gangrene has taken place extensively, and during the separation of the mortified parts, the patient may be allowed such food as may be deemed best to support his strength; moderately rich broths, or light meats, as mutton or chicken, may be allowed in very moderate quantities. The drinks of which we have already spoken, as proper for this stage, may also be taken in moderate quantities. The regulation of the diet, in affections of this kind, is of the highest importance; and it is probable, that if this were properly directed, with reference to the condition of the patient, and the stage of the disease, no other internal treatment, except the administration of tonics, would be necessary.

Cases. The first cases that will be given, are translated from Boyer's Maladies Chirurgicales, and show the mode of occurrence of the disease in Europe, and illustrate the practice of two of the most distinguished surgeons, of that time, in Europe.

"In 1791, four persons, of whom three were butchers, and the other the wife of one of them, bought at Mont-Rouge, near Paris, an ox which had died of charbon; they divided into small pieces, which they conveyed, clandestinely, into the capital. It was sold, and no one who ate of it experienced the least inconvenience from it; but two of the butchers were attacked with malignant pustule. The disease manifested itself, in both, between the angle of the jaw and chin, by a small lump surmounted by a vesicle. A physician and a surgeon were called in, but they mistook the disease for erysipelas; bled both of them from the arm and foot; they died on the third day.

"The woman was attacked about the same time. The pustule showed itself at the anterior part of the neck, under the base

of the lower jaw, and made rapid progress. The engorgement became considerable, and soon began to interfere with respiration and deglutition. M. Larrey having been called in, recognised the nature of the disease; but as he considered the case as very serious, had me called in consultation. The patient was scarcely able to breathe; the pulse was extremely weak, and the prostration extreme; an eschar of considerable extent occupied the parts which had been under the vesicle. We scarified the gangrenous part, and touched the bottom of the scarifications with the nitrate of silver, and administered tonics and cordials internally. This practice being followed up, the patient was much relieved the next day; the respiration became much more easy; the use of cinchona, in large doses, raised the pulse; the mortification was limited by a line of inflammation; the eschar became detached, and the cure was complete. The loss of substance, however, was great; the cicatrix formed a kind of frenum which extended from the chin to the clavicle, which inclined the head to one side.

"In the third of the butchers, who was the woman's husband, the pustule appeared upon the lower part of the right cheek: we applied the caustic, which arrested the progress of the disease at its commencement. We administered, at the same time, Bordeaux wine and cinchona, and our patient was quickly restored to health."

The following cases occurred in this immediate vicinity, and under my own observation.

Case 1st. A negro boy, aged 18 years, of good constitution, was attacked with malignant pustule on the 20th August, 1835. The charbon was, at this time, epidemic among the cattle in the neighborhood; but this boy had not been about animals thus affected—cause of the disease, in this case, unknown. The pustule appeared about the middle of the right cheek; the swelling increased rapidly, and a physician was called, who applied cups to the part, which was afterwards blistered, and a poultice of poke root (Phytolacca decandra) was applied. Though not practising at that time, I had an opportunity of watching the disease in its progress and termination. The remedies applied did not seem to check or alter in any way the course of the disease. The swelling increased rapidly, difficult respiration and deglutition ensued on the fourth day, accompanied by delirious and in-

terrupted sleep, and slight fever. On the fifth morning he died; the tumor at this time, extending from the clavicle over the neck, throat, and entire face, rendering this latter an almost shapeless mass, and entirely closing the eyes. The gangrene had extended, in a circle, to several inches from the centre.

Case 2nd. Negro man, aged 21 years, good constitution, was attacked a few days after the last case—the vesicle appeared in the same region; the same treatment was pursued as in the last case; but at my suggestion the actual cautery was applied, and large doses of quinine were given internally, and a rapid convalescence commenced on the fourth day. Slough considerable. Charbon still epidemic.

Case 3rd. Negro man, aged 22 years, was attacked on the 16th of October, the same year. The pustule appeared on the upper and back part of the cheek; it commenced to swell rapidly; the actual cautery was applied; a poultice of powdered cinchona was applied after it, and amelioration of the symptoms was almost immediately perceived. Quinine was given in considerable doses, and on the fourth day the swelling had subsided considerably, the pulse was good, and the convalescence progressed rapidly; slough small; the resulting cavity filling, as usual, by granulations; charbon still epidemic among the cattle; but this man, as the others, was not aware of having been near any animal affected by it; he said that a fly bit him on the part before the appearance of the pustule.

Case 4th. A negro man, aged 19 years, good constitution, was attacked by the disease on the 27th October—the pustule and lump came about the middle of the left cheek. In this case, as no iron was at hand, a small piece of caustic potash was used; the place was afterwards dressed with cinchona, as in the preceding case; quinine was also administered internally; convalescence commenced immediately; healthy inflammation was produced, with suppuration, and on the third day afterwards, he was able to do light work. Charbon still epidemic.

Case 5th. Negro man, aged about 22 years, had always been healthy; attacked on February 20, 1836—the pustule appeared about the middle of the right cheek—the actual cautery was applied on the second day, and followed by the application of the bark poultice, and internal administration of quinine. On the next day, there was a decided amelioration of symptoms,

and his convalescence progressed rapidly during two days, when he was seized with inflammation of the lungs, and died on the fifth day after the relapse. Charbon not epidemic at that time.

Case 6th. A negro man, aged about twenty years, of strong constitution, was attacked on the 23rd of Mareh, 1836—the pustule came on the back part of the right cheek—on the 24th, cups were applied by the physician attending, and blisters over the part; he became much worse; and on the 25th, I was called, and found the engorgement very great and spreading rapidly; the gangrenous part was about an inch and a half in diameter. Caustic potash was applied; and as I had no powdered cinchona with me, I ordered a poultice of the boiled and pounded red oak bark; and gave quinine, hourly, in doses of one grain. The next day I found him much improved, and his convalescence was uninterrupted; but the cavity left by the slough filled out very slowly by granulations. Charbon not epidemic.

Case 7th. A mulatto child, aged five years, has always been remarkably healthy until the present—the pustule appeared on the 27th of April, 1836, on the upper and back part of the right cheek, near the under edge of the zygomatic arch—it was picked by the child's mother with a needle, and found to contain a drop of reddish serum, or very thin blood. After this time no attention was given to it, as the charbon was not epidemic, and the pustule excited no alarm. On the 29th, however, there was a considerable tumor observed at the same place, with it's apex or centre depressed; but the child did not complain of pain, but only of itching, and it was with difficulty that he was prevented from scratching the part. On the 30th, the actual cautery was applied, but the iron used was very thin, and the person who applied it very timid; and the cauterization was rendered inefficient by not having been sufficiently deep to reach the parts situated beneath the gangrene. It was also scarified, and a blister was applied.

May 1st. I was this morning called in, and found the boy in the following condition—pulse 120 a minute, quick and thread-like, subsultus, and irregularity in all his motions, showing that the nervous system is implicated; tongue covered with a dark coat; the swelling is very great, extending from below the clavicle over the whole face, so as entirely to close the right eye, and

nearly to close the left; the gangrenous eschar is about two inches in diameter, and not circumscribed. Incisions were made through the eschar, and liquid caustic potash applied; a poultice of poke root was afterwards applied, and quinine given internally. Prognosis unfavorable.

May 2nd. Swelling much increased; pulse 125, weak; mortification rapidly spreading; great ardor-urinæ, perhaps from the blistering of yesterday. May 2nd, evening—very restless, considerable difficulty in breathing, on account of the great swelling.

May 3rd. Died this morning, at seven o'clock, without suffering any mental derangement to the last.

Autopsy, three hours after death. Stomach pale, containing watery fluid mixed with mucus; large intestines having patches of deep red, produced perhaps by worms, of which it contained a large number, and of great size. Liver and spleen healthy. Mesentery also healthy. Lungs healthy, without any appearance of inflammation. Heart having the appearance of intense inflammation; ventricles filled with uncoagulated blood; the inflammation seems to have travelled along the veins from the seat of the disease to this organ; the columnæ and parietes of the right ventricle very much softened, so much so, that the dissecting hook tore out, with the weight of the heart, though stuck in to its full depth, in a direction transverse to the fibres; all the appearances of this organ, and the veins between it and the seat of the disease, were those of phlebetes. As there was no mental aberration, the enccphalon was not examined.

Case 8th. A young man, a white man, was attacked by the pustule on the 6th March, 1837. He said that a fly had bitten the part, about a day and a half before the disease first appeared, and that he had felt from that time a kind of itching sensation. Saw him on the 7th, the pustule was situated on the back and lower part of the cheek, near the angle of the jaw; I applied a small piece of solid caustic potash, and made use of the bark poultice, with quinine internally, and on the next day found him doing well. His convalescence was uninterrupted; the part gradually filled out, and left but little disfiguration. Charbon has occurred in the neighbourhood lately, and several animals have died on the farm of the father of the young man.

I have chosen these cases from among a great many, as being

illustrative of the mode of occurrence of the disease ; and though I could increase very greatly the number of cases, I refrain from doing so, as the treatment has but little varied, and pathology adding no new light, it would but serve to render this treatise more prolix than is desirable.

From a careful observation of the cases I have seen, I am led to believe, that the disease is essentially gangrenous from the commencement ; that is, that there is gangrene before the phlyctenæ make their appearance ; and that these vesicles are the result instead of the forerunners of the gangrene—the consequence of this is, that any attempt to bring about resolution must fail, as there will necessarily be a slough of this gangrenous part, which will be smaller, the earlier a line of demarcation is established between this and the sound parts. These points, however, as some others that I have advanced, may, and probably will be disputed by some ; of course they are open to discussion, and court investigation. I have not written to convince, but merely to excite this investigation. And if this treatise can direct the attention of our profession, to a disease that has of late years brought dismay into some of our finest districts—if it can induce the experienced to bring forward their observations, and excite the enquiry of the scientific, its objects will be attained, and its author more than compensated.

ARTICLE II.

Report on the Ligamentum Dentis.

At a recent meeting of the Medical Society of Augusta, Drs. L. A. Dugas, P. F. Eve, and B. Douglass, were appointed a committee, to verify the correctness of the alleged discovery of a certain ligament connecting the tooth and alveolar process in the human subject. The following is the report of that committee, read before the Society, by Dr. Dugas.

The Committee, to whom was referred the task of "verifying the correctness of the alleged discovery of a certain ligament

connecting the tooth and alveolar process in the human subject," beg leave respectfully to present the following report:

Your committee have endeavored, in the 1st place, to determine, whether or not, the existence of such ligamentous connextions have been recorded by systematic writers on the anatomy of the teeth; in the 2nd place, to ascertain to whom should be attributed the alleged recent discovery; and, lastly, to examine, whether a ligament does exist, and, if so, to define its character. In the prosecution of the first inquiry, the works of Thos. Bell, of Charles Bell, of Cruveilhier, of Lauth, of H. Cloquet, of Meckel, of Horner, of Blandin, of Wistar, of Snell, of Delabarre, of Baumê, of Bourdet, of Fauchard, of Fitch, &c., have been examined; in neither of which can any allusion be found to the ligament under consideration. They all concur in affirming, that the teeth are held in situ by means of the gums and membranes interposed between the gums and alveolæ; their extraction being, in some instances, impeded by an irregular curvature or separation of the roots.

With regard to the second inquiry, the means have necessarily been limited to the few notices contained in the newspapers of the day. From these, it would appear, that the *discovery* of a method of extracting teeth, with, comparatively, little pain, is claimed by three Dentists of Philadelphia, viz: Mr. Ebert, Mr. Humphreys, and Dr. Caldwell; all of whom, however, with the characteristic reserve of charlatans, have, hitherto, endeavored to conceal the principle on which their simplified operation is based. Mr. Ebert is, on the authority of Dr. George F. Klengel,* said to have extracted teeth on the new principle, as far back as twelve months since. It has not been ascertained to what date the other individuals refer the origin of their practice; but, it would appear, that their claims are more recent. It will be observed, that neither of the above Dentists claimed the discovery of a *ligament* connecting the tooth and alveola, but merely of a peculiar method of extracting teeth.

The discovery of the ligament, is claimed by Dr. P. B. Goddard, in an article published in the November number of the American Journal of the Medical Sciences. In this article, the doctor states, that having been informed "that the new method

* Philadelphia Saturday Courier, December 1, 1838.

[of extracting teeth] consisted in cutting with a pen-knife something which held the tooth in its place, I resolved to scrutinize the matter closely. * * I then procured a jaw, and making a very careful dissection, satisfied myself of the existence of a ligament. This consists of short, strong ligamentous fibres, existing *on one side of the human tooth only*, and unites the neck of the tooth to the alveolar process. The fibres arise from the edge of the alveolus between the teeth, and proceeding forwards in the case of the molars, and inwards in the case of the incisors, is inserted into the neck of the tooth, not quite the sixteenth of an inch from the enamel. Its size (and of course its strength) varies with the class of teeth to which it belongs. In the incisors, it is a narrow tape-like band—in the cuspidati and bicuspidati, it is wider—and in the molars, it is as wide as the neck of the tooth and very strong. A few of its fibres are blended with the gum in its neighborhood; and thus we may account for its occasional laceration when a tooth is extracted. Its adhesion to the tooth is stronger than to the jaw, and, if not cut, it is commonly dragged out with the tooth. Its ligamentous character is very distinct, the fibres being white and shining, like tendon."

We now come to the third division of our labor, and, at the same time that we are enabled to confirm the fact of the existence of a ligamentous connexion between the teeth and alveolar processes, we cannot concur with Dr. Goddard in his description. Our researches have presented to us not "*a ligament*," but a set of ligaments; and, not only connecting one portion of the tooth to one portion of the alveolar process, but the whole circumference of the tooth to the whole circumference of the alveolar process, and, moreover, the teeth to each other. By dissecting a jaw, previously subjected to maceration, these bonds may be very readily detected. The ligamentous fibres are seen to pass from the edge of the whole alveolar process to the tooth, about a line from the enamel, thus closing entirely the cavity in which the root is contained. But, in addition to this kind of capsular ligament, there are other fibrous masses, much more developed, and which extend from the alveolar process, beyond its edge, to the neck of the tooth, and from one tooth to that next to it. The fibres, extending from one tooth to the other, are necessarily situated between the teeth, but project considerably

on the internal or lingual face of the teeth, though not at all on the external—they are much stronger than those which extend from the alveolar circumference to the tooth, and constitute a very distinct ligament, whose fibres, extending from one tooth to that next to it, rest, as it were, on the osseous partition separating one alveolar cavity from the other.

Your committee, therefore, have ascertained, that the statement made by Dr. Goddard is correct in one particular only; that is to say, in the assertion that a ligament does exist. Dr. G. states, that the fibres exist *on one side only* of the tooth, and that they unite the neck of the tooth to the edge of the alveolar process. From the description we have given, you will perceive that the fibres which extend from the neck of the tooth to the edge of the alveolar process, are not confined to one side only, but extend from the *entire* circumference or edge of the process, to the *entire* circumference of the neck of the tooth. Again, the Doctor affirms, that the fibres proceed forwards in the case of the molars, and inwards in the case of the incisors. We have seen that this is an error, and that the tendinous fibres extend in a horizontal direction, from the neck of one tooth to that of the root next to it, and that in their course they rest on, or rather, are attached to the upper edge of the partition separating the alveolæ from each other. These strong ligaments are not, however, as advanced by Dr. G., limited to the space *between the teeth*, but really project, or extend considerably, in the case of the molar teeth, over those angles of the neck which look towards the cavity of the mouth, thus constituting for the molar teeth a very distinct set of ligaments, not to be found belonging to either the incisors or cuspidati. *All* the teeth, are, therefore, bound to the edges of the alveolar processes by the same kind of capsular ligament, but the molars are provided with additional and much stronger ligaments, covering the capsular ligament and extending from below the edge of the process to the neck, and from one neck to the other. Your committee can perceive in Dr. G.'s description, no allusion to these additional fibres, which must constitute a very great additional impediment to the extraction of the molars.

From these premises, it is evident that your committee regard the alveolar cavity as entirely closed, and having no communication with either the mucous membrane of the gum, or the

general periosteum of the jaw-bone; that the roots of the teeth are enclosed within said cavity, in the same manner that the head of the os femoris is enclosed within its articular cavity, by a surrounding capsular ligament; that the ligamentous fibres extend from the edge of the alveolar process to the neck of the tooth, in the same manner that similar fibres extend from the edge of the acetabulum to the neck of the os femoris. Now these views are altogether at variance, with the opinions advanced by every writer whom we have had an opportunity of consulting. These authors differ from each other only in one respect—one class believing that the mucous membrane of the gum dips down into the alveolar cavity to furnish its lining membrane, whereas the other class believe, that the lining membrane is furnished by a continuation of the periosteum of the maxillary bones. The French* generally advocate the former, and the English† the latter disposition. These opinions have doubtless originated, on the one hand, in the theory of the continuity of substance in membranous expansions, and on the other hand, in the more recent theory of integumentary excrescences. Those who regard membranes in general, as neither commencing at any given point, nor terminating at any other, were led to trace the periosteum from the surface of the maxilla into the alveolæ, by which the continuity of substance might be understood; whilst those who, in their endeavors to generalize, refer the

* La portion réfléchie de la gencive répond, sans y adhérer, à la racine de la dent dans toute la portion de cette racine qui déborde l'alvéole, puis s'enfonce dans la cavité de cette alvéole pour constituer le périoste alvéolo-dentaire, périoste que nous avons vu être un puissant moyen d'union entre la racine et l'alvéole.—*Cruveilhier, Anat. Desc. T.* 2. *P.* 388.

The mucous membrane which enters into their constitution, (the gums,) is prolonged into the alveoli, and from the bottom of these cavities, sends into the cavity of each of the teeth, a bulbous prolongation which exactly fills it. —*English translation of H. Cloquet's Anat. p.* 597.

† The periosteum of the maxillary bones, after covering the alveolar processes, dips down into each alveolar cavity, the parietes of which it lines. From the bottom of the cavity, where the vessels and nerve of the internal membrane enter, it appears to be reflected over the root of the tooth, which it entirely covers as far as the neck, at which part it becomes intimately connected with the gum. Hunter, and others, believed that there is only a single layer of periosteum common to the alveolus and the root.—*Thomas Bell on the Teeth, p.* 42.

hair, nails, and teeth, to a secretory process of the integumentary surface, find it convenient to describe the secerning apparatus of the tooth, as contained in a duplication of the mucous membrane of the gum, dipping down into the alveolæ, and answering the double office of periosteum to this cavity, and of investing membrane to the tooth. It is certain that neither of these views could have ever been sustained by anatomical inspection; and now that this inspection has been made, and the influence of high testimony set at naught, it may be interesting to explain the origin of the membranes, which unquestionably exist between the tooth and socket; and also to determine the disposition of the gum and general periosteum.

In order to do this, it must be observed, that the first rudiments of the tooth are lodged in the alveolar cavity, and consist of a small sac contained within another, between both of which is contained a limpid fluid. Within the inner sac the tooth is formed. The disposition of these sacs is such, that whilst the inner adheres to the tooth, and the external to the alveolar cavity, both unite in their adhesion to the neck of the tooth when more fully formed. As the formation of the tooth progresses, the space between the two membranes diminishes, until they are brought into contact. Whether or no the cavity existing between them is ever obliterated, and the fluid it manifestly contains in the early stages of the development of the tooth ceases to be secreted, does not seem to have been determined.

Prior to the perforation of the gum by the tooth, the gum covers the alveolar cavity and can certainly have no open communication with it;* and unless we admit that the membrane extends down into it after the exit of the tooth from beneath, it is difficult to imagine the possibility of the disposition described by Cruveilhier, &c. The same objections apply to the continuation of the periosteum into the alveolæ. The mucous membrane and periosteum of the roof of the mouth, for example, closely connected by cellular tissue, pass on to the alveolar processes, extend over them, and continue their investment of the external face of the maxilla. This is perfectly evident, on examination

* The *gubernaculum dentis*, or neck of the dental follicle, which extends to the covering of the alveolar orifices, though believed by some to be an open tube terminating at the mucous surface of the gum, is asserted by others to be always found closed.—*Vide Système Dentaire par Blandin, p.* 87, *et seq.*

of the parts previously to the evolution of the teeth in children, and after their entire removal in extreme age. The beautiful series of fœtal skeletons in the Museum of our College, including specimens of the growth of each month, from the second to the ninth, shows clearly and distinctly, the closure of the alveolar cavities by the periosteum which has been allowed to remain. We have already seen that the alveolar cavity is lined by the membranes belonging to the tooth; it can, therefore, need no other. When, however, the tooth begins to make its way out, it presses the periosteum above it, against the mucous membrane, until they are brought in immediate contact; then they yield a passage to the perforating tooth. By this mechanism, the mucous membrane, the periosteum, and the membranes proper to the tooth, are necessarily brought in contact, or nearly so, and all adhere to the neck of the tooth on nearly the same line. These facts may explain the error of those who consider the lining membrane of the socket, to be continuous with the mucous membrane, or with the periosteum; but they do not account for the formation of the bonds we would call the *capsular ligament*, and of those extending from one tooth to the other. These must be subsequent developments, as our dissections establish them to be entirely distinct, and unconnected with either the gum or surrounding periosteum. In making these dissections, we have alternately torn off these coverings by seizing either the gum or the periosteum; and, in either case, both are removed, and leave the ligaments fully exposed. This process is materially facilitated by previous maceration, as we have already had occasion to state. At what period these ligaments are developed, we have not had the opportunity to determine.

ARTICLE III.

Case of Abdomino-intestinal Wound, and Recovery.

By A. R. Kirkpatrick, M. D. of Cheneyville, La.

On the 23rd day of August, 1838, I was called on to attend a negro man belonging to Mr. L. Burges. He had been engaged with a fellow servant in falling a cypress tree in the swamp, both cutting facing each other, on the same side of the tree, when the other negro's axe flew off, in the downward stroke, and cut Alfred entirely through the abdominal parietes, dividing the recti abdominal muscles transversely, at the line dividing the left iliac from the left lumbar region, six inches in extent, and making a small opening of about eight lines into the ileum also transversely. Immediately the axe dropped from the wound, and the intestines followed, as they were very much loaded with food and melons, which he had eaten early in the day. The accident occurred about half past four o'clock, P. M. It was an hour and a half before I saw him, at which time he was nearly exhausted with loss of blood and the great pain he suffered. I found nearly a hat crown full of the descending colon and the ileum protruded and lying in the hands of the patient, and two negroes, who were in attendance. There was some discharge of stercoraceous matter, and watermelon seeds, and the shreds of melons, through the aperture in the ileum. No omentum was exposed. The coats of the intestines, and the mesentery, were swollen, and highly injected with arterial blood, and indicating an active inflammation in its incipient stage. The mesocolon and mesentery had several points where they were discolored and darkened, and there was an areola around the incision in the ileum of a dark color, which was made worse by the escape of the fæces and seeds. Owing to the gorged condition of the entire alimentary canal, I found considerable difficulty in returning the protruded portion; and had not large quantities been discharged, as above mentioned, I should have been compelled to enlarge the abdominal wound. I retained the wound of the intestine at the external opening, whilst returning the intestines, and finally secured it in that position, by introducing a single suture through it, untied, and leaving the ends outside of the wound

—this was to prevent extravasation of fæcal matter, and allow the egress of any deleterious substances. I then closed the external orifice with interrupted sutures and adhesive strips. His pulse had nearly ceased at one time, but it recovered, and was at 65 when the dressings were applied. He complained of a sense of colicy pain, and much soreness of course, and some head-ache and nausea. Having sustained the injury in the swamp, and in order to convey him with ease and safety to the house, he was laid on a sheet, the corners at each end tied separately and carried on a pole. At ten o'clock a dose of oleum ricini was administered to him, which caused him to vomit, and a large quantity of half digested food was thrown up of a disagreeable acid odor—and every thing, except cold water, caused the same. There was no appetite, nor any disposition to go to stool.

August 24th. Rested well during the night. Slightly feverish now; pulse quick and somewhat accelerated; no alvine discharge yet; passed his urine with difficulty and straining; no appetite; wound very painful, and feels as though there was a heavy weight across his abdomen—the wound is in good condition, and secreting healthy pus. At eight o'clock, A. M. bled him to the amount of eight ounces, and administered a dose of sulph. magnes. which produced nausea and retching. A large sinapism was applied to the abdomen above the wound—this was in order to subdue, or rather prevent, any inflammation of the wound in the peritoneum and intestines. Ordered that an enema of salts and oil be administered, if he had no passage by ten o'clock, A. M.

Evening visit. The glyster was given, and two small evacuations procured: pulse quick and accelerated; venesection to the amount of four ounces; no appetite; little pain; abdomen swollen and tympanitic. Prepared a solution of sulph. magnesia, sweetened, and administered a swallow of it every twenty minutes; directed an enema at midnight if there was no discharge before that time; and directed blood to be drawn if the pulse demanded it.

25th. Morning Visit. Rested well last night; two evacuations; pulse natural; abdomen still tympanitic, though not so much so as yesterday; wound in good condition, granulating finely, and adhesion throughout its entire line; the intestine was in its proper situation, as the ends of the suture were secured by

the adhesive strips; nausea on taking any thing; no appetite; a large vesicatory was applied to the abdomen, for the purpose of keeping up the counter-irritation and making it more permanent.

Evening Visit. Three evacuations; much flatus escaped, and indeed his intestines are constantly in motion and borborigmy; pulse 108, full, though compressed; considerable heat of the surface.

Thinking that the intestine had been confined long enough, I removed the suture, and from the ease with which it was withdrawn, I am induced to think that the part through which it passed had entirely sloughed off; as the reader will remember, I stated the lips of this incision to be in a state of advanced inflammation, and approaching to disorganization and mortification, at the time the suture was introduced.* Scraped lint was applied to the wound. Dressed the blister. Still no appetite; and nauseates at any thing but cold water. The weather being oppressively warm, he was very thirsty, and demanded the coldest water that could be procured. The tympanitis is less. The heat of the surface is owing as much to the heated atmosphere as any thing else. Fahrenheit's thermometer, from ten to three o'clock, is from 87 to 92.

26th. Rested very well last night; pulse this morning at 80, though full and difficult to compress; one alvine evacuation during the night; did not examine the wound; he took a small portion of corn meal gruel, which is the only diet allowed; yet he has no desire for any food, though his nausea is less than formerly. The coldest water is allowed to him freely. Directed him to be bled in the afternoon, if he had an excitation of pulse; and an enema at one o'clock, if necessary. He now passes his urine, regularly, unattended with pain.

Though I am always averse to passing any prognostic on a case where there is danger, yet, from the length of time this man had survived, and, added to that, his good constitution, and the good attendance he had, I was led to pass a favorable opinion on the result of his case, and assured him and his owner, that proper care would ultimately restore him to a share of his former health and usefulness.

27th. Morning Visit. Rested well during the last twenty four hours; several copious alvine discharges; many melon

* Was not this too early for incipient mortification? *Ed.*

seed discharged, which were eaten on the day he sustained the injury; thereby showing that the alimentary canal was attempting to perform its proper functions. During this time, nothing has escaped from the intestines, through the external orifice, unless it were purulent matter or blood. Appetite improved and returning. Pulse 68. The wound was found in a healthy state, and granulating finely and rapidly. One of the sutures was removed, on which the skin and integuments slowly separated, and the wound somewhat opened—this was secured by adhesive strips; dry scraped lint was applied; tympanitic state much lessened; lips of the wound not swollen as much as heretofore; perspiration regular; ordered glysters, if necessary, to prevent constipation.

28th. *Evening Visit.* Continues to rest well; tongue somewhat furred; pulse 68; borborigmy; appetite restored and not easily satiated; he is allowed thin chicken soup. There was some thunder and lightning to-day, which, he said, made his wound and his intestines pain him more than usual. Adhesion of the muscles appears to have taken place, but the skin is still open; this is owing to the lint being pressed down between the sutures, and thereby preventing it, and causing a constant discharge of pus. I discontinued the lint and applied a strip of soft linen, saturated with olive oil.

30*th.* Being engaged on the 29th, I was not able to visit him. During this time he has rested well, except that he is much fatigued from remaining constantly in the recumbent posture, and most of that time on his back. Much reddish-brown liquid was discharged yesterday morning, preceded by considerable pain, after which, the discharge became easy. This, I had no doubt, was bilious secretion, mixed with blood and pus; and I was confirmed in this when, removing the dressings, my pocket case of instruments accidentally fell on his abdomen, which caused a sudden movement and contraction of his abdomen, and immediately there was a vast quantity of bile, fecal matter, bloody sanies and pus, discharged in a large stream. I was much alarmed, though I concealed it as much as possible—I made pressure on the whole abdomen, and caused all to be discharged, that I could; air also escaped in bubbles. The abdomen now seemed flaccid, and the lips of the wound were drawn in close apposition and retained by adhesive strips. No alvine discharge on the

29th; appetite good; pulse 60; bread and butter allowed him. I thought the sutures kept up irritation in the skin, and they were all removed.

31*st.* Great deal of pain in the sore; constant discharge of the above mentioned matter from the time I left him yesterday morning. When I removed the dressings, thick fecal matter was seen lying on the wound. He remarks, that when he eats any thin matter, it escapes, in a short time, at the wound; but if he eats any thing like bread, hominy, or rice, it is not thus, but continues down, and he has his natural fecal discharge.

Heretofore the wound has had on it a thick coat of white purulent matter, strongly attached to the parts, which could not be removed by soap and water, and when taken off by the forceps caused the place to bleed; but this morning this had all disappeared, and the wound presented a clean, red, granulating surface; this I attributed to the action of the bile which was thrown out. The orifice through which the discharge takes place is about three lines. The wound was secured tightly with numerous strips in different directions, and the roller drawn as tight as could be borne. He is allowed to eat a small portion of food four times a day.

September 1*st.* Purulent matter on the wound; some watery discharge; no bilious tinge or mark of any fecal matter. Bubbles of air were seen at the opening, which is smaller than before. An adhesive strip was placed immediately over it, and a small compress on this again, and all confined by strips, and a larger compress and bandages. Repeated alvine evacuations per anum. Pulse 60.

2*nd.* Wound easy and no discharge perceptible. The dressings were not removed, as I thought the wound had been interrupted too much, (once every day,) and all the granulations destroyed as fast as they were formed. Appetite and digestion good; bowels loose.

3*rd.* All going on smoothly. On removing the dressings I was happy to find that I was correct in my suspicion, for the cuticular adhesion had progressed rapidly. The passage from the intestine, through the wound, was, however, still open, and some gas escaped. Dressed as before. Determining to dress it less frequently, I did not visit him till the

5*th,* Found him much better, and the wound had closed, ex-

cept a small place where the gas and feces had escaped. He felt the feces discharging through this opening, and notified the nurse of it, who immediately made gentle pressure over the part with her fingers, and afterwards tightened the roller.

7th. He now walks about without any pain, and sits up several hours in the day. The small opening is still perceptible, though lessened, and nothing escapes but sulphuretted hydrogen gas, as is known by the dark color of the strips.

From this time till 17th September, I visited him two or three times a week, to see that nothing untoward should be allowed to happen; and he continued improving; and by the 15th was able to hoe in the garden, and attend to little matters about the yard and kitchen. Whenever any flatus begins to move in the intestines, it gets to the wound and then stops, causing considerable pain, but is immediately relieved by pressing his hand over the part and dispersing it.

On the 12th, there was a ridge under the cicatrix, which I attributed to the divided muscles having retracted down to that place. But he continued to complain of pain and uneasiness in the part, and it seemed to enlarge. It became evident that a furunculus was forming, and I ordered meal poultices to be kept to the part. On the 20th, it opened spontaneously, and discharged a quantity of pus. The cicatrix is small, and finely healed in every part at this date. He is going about performing his regular and ordinary duties, complaining of no pain or weakness whatever.

It is evident that the intestine has grown to the abdominal parietes, as was intended and desired. When flatus moves in the bowels, the cicatrix is puckered and drawn, as a person's lips drawn forcibly together and inward.

This is not given as a strange phenomenon or anomalous case, as I am well aware of many similar cases by surgical authors, and in the Medical Journals of the day; but as shewing what nature may suffer, and yet, when properly assisted by surgical attendance and a good system, may surmount. The patient, aged 47 years, remained, on a hot summer's afternoon, after active exercise, more than one hour and a half, with a considerable length of his intestinal canal exposed to the atmosphere, and the rough handling of negro men, who had much injured the protruded parts, by their efforts made to return them. He then had

to be transported more than half a mile, partly through a rough wood, in which he was much jolted and disturbed. Active inflammation had taken place in the intestines and peritoneum before they were returned; and then there was the additional irritation of a thread passing through the coats of the intestine. When all these are taken into consideration, the case presents a wonderful example of the power of nature to overcome disease and injury. At first, I despaired of doing any permanent good; but was determined to act while there was breath and pulse, so far as my judgment directed any effort to be made; and all may judge of the joy I feel, in seeing my efforts attended with such marked success.

Many minor points of surgery I have intentionally omitted, as being unnecessary to the report of the case. No rule can be laid down for the management of such cases—every physician must be guided by the attendant circumstances, and his own judgment.

ARTICLE IV.

Surgical cases occurring in the practice of L. A. Dugas, M. D. Professor in the Medical College of Georgia. Reported by W. H. Robert, M. D. of Columbia County, Ga.

Having had occasion, during the prosecution of my studies with Professor Dugas, to witness many of his surgical operations, and believing the report of cases, however trivial at first sight, to be useful as contributions to our fund of facts, I will offer no further apology for relating the following.

Case 1. *Amputation of Scirrhus mamma.*

Rachael, a negro woman, aged 35, the property of Miss H. of Columbia county, of apparently good constitution, and in good health, had a small tumor in the left mamma, occasioned by a blow. This tumor had, during two years, increased but little, when the patient received another blow on the breast, which caused the tumor to grow rapidly during the six succeeding

months, and to become very painful. The pains were sharp and lancinating, the tumor lobulated, uneven, hard, and occupying the anterior portion of the mamma; no enlarged axillary glands; lancinating pains occasionally felt in the upper part of the left hypochondriac region, near the epigastric, but no tumor to be felt; mammary tumor about the size of a turkey's egg.

At this stage of the case, the patient was sent to Dr. Dugas. The usual discutient means had been ineffectually used for the reduction of the tumor. Dr. D. therefore, without further delay, removed the whole of the mammary gland in the ordinary manner, on the 10th January, 1836. The wound healed by the first intention, and in a few days the patient returned home.

April 1. No pain nor uneasiness about the cicatrix, but the pain has continued increasing, near the epigastrium, where a tumor can be distinctly felt, which increases rapidly, is deep-seated, and of uncertain attachment. Says she feels the same kind of pain as she formerly experienced in her breast. Her appetite, though formerly good, is now bad; she frequently rejects her food when coarse; is very low spirited, and wishes to go to a "cancer doctor."

July 22. Was sent to the quack, with whom she remained a fortnight, and returned entirely relieved of her epigastric pain and tumor. Now feels in excellent health and spirits; no symptom of a return of the disease in the breast; says, however, that she still occasionally feels some of the pains about the axilla, although none of its glands are enlarged, or tender on pressure.

Having occasionally heard from the patient since the above date, we have been informed that she still continues well. On examining the tumour after the operation, it was found to present all the peculiarities of a scirrhus.

Case 2. *Amputation of a Scirrhus mamma.*

Mrs. H. of Edgefield district, South Carolina, aged forty, of a good constitution, and leading an active life, placed herself under the care of Dr. Dugas, in May, 1836. She had, about eighteen months previously, received a blow on her right mamma, which gave rise to a considerable degree of inflammation and swelling. This was treated by discutients; the acute symptoms subsided and left a hard tumor, which was subsequently exposed, accidentally, to repeated bruises, and which was subjected to

a variety of topical applications, vesicatories, Iodine ointment, &c. without advantage.

The tumor was now adherent to the skin, about three inches in diameter, and occupied the right side of the mamma towards the axilla. Two of the axillary glands were considerably enlarged. The tumors were rapidly increasing in size, and the seat of lancinating pains. Both mammæ were, naturally, very voluminous.

On the 20th May, Dr. Dugas removed the whole of the mamma, and by extending the incision, exposed the affected glands which were also removed. The wound was closed in the usual way, with adhesive strips, &c.

24th. Removed the dressing, and found that adhesion by the first intention had taken place, throughout the whole line of incision. Not a drop of pus was formed, and the lint was soiled by only a little bloody oozing. The case was left in the charge of Dr. Spann, a neighbouring physician.

June 8th. Dr. S. being absent, Dr. Dugas was sent for, and found that the case had been neglected; that the ligatures had not been removed, and that suppuration had taken place along their course, ripping up the adhesion of the integuments to the muscles, but not effecting a separation of the lips of the wound. A slight incision made in the cicatrix, at the place of exit of the ligatures, gave issue to about a gill of healthy pus. The ligatures were now removed, a compressing bandage applied, and the whole wound healed in a few days.

December, 1838. Mrs. H. has experienced no inconvenience from the operation, nor has there been any manifestation of a disposition to a return of the disease.

The tumor removed from the mamma, as well as those from the axilla were eminently schirrous. That in the mamma presented, in addition to the usual features of schirrous tumors, the peculiar indications of approaching suppuration. Its tissue contained softened particles, and its surface adhered closely to the skin.

Remarks. The two above cases, are interesting in several respects. In the first place, they establish the propriety of such operations, even after the axillary glands have become implicated, a point on which there is still much hesitation among surgeons. That schirrous affections do frequently return after the use of the

knife, and other means, is but too true; yet if it can be established that in many cases such a return does not occur, the surgeon should certainly never be reluctant to offer the patient the only known chance of escape from a most horrid death. The uncertainty of the diagnosis between tumors termed fibrous, and those designated by the appellation of schirrous, is such, that no practitioner would be warranted in resorting to the knife, before fully testing the efficacy of the various topical applications known occasionally to remove tumors of such ambiguous nature. Yet, when in despite of such medication, the tumor steadily continues to progress, the knife should no longer be withheld.

The success of the cases above recited, may, with much propriety, be attributed to the fact, that the *entire* mammary glands were removed. The examination of the parts, after their removal, evinced such an intimate union of the morbid with the healthy tissue of the gland, that it was extremely difficult to assign the true limits of either. This difficulty would have been much greater, had the attempt been made during the operation, and under the influence of a desire to hasten, and to spare the patient as much pain as possible. The objections to the sacrifice of the entire gland, can weigh but little, in comparison with the danger of leaving a portion of the diseased structure, by endeavoring to save appearances.

The progress of the second case, after the operation, exemplified the necessity of attending particularly to the removal of ligatures, however strongly union may have taken place between the integuments and stump. The formation of pus, in such cases, should be carefully watched, and an issue given it, as early as possible, in order to prevent such an accumulation as occurred in this instance.

Case 3. *White Swelling of the Knee—Amputation.*

Henry, a mulatto boy, about 15 years of age, belonging to Mr. A. Cumming, had suffered several years with an affection of the knee joint, of spontaneous origin, during which time he was subjected by several practitioners of distinction, to all the methods of local and general treatment usual in such cases. He was, in 1836, placed under the care of Dr. Dugas, who found the knee considerably swollen, though presenting no fluctuation: the leg permanently semi-flexed, the patella resting on the inner side

of the joint, and immovable, and a fistulous opening four inches above the articulation, which admitted the probe to the lower extremity of the os femoris. Wishing to attempt the production of perfect anchylosis, Dr. D. placed the patient under the internal use of the Iodated solution and compound decoction of sarsaparilla, for several months, during which time the limb was kept perfectly still, and the fistula injected at first with a solution of chloride of soda, and subsequently with a diluted solution of Iodine. This treatment proving ineffectual, amputation was performed, above the knee, on the 7th of October, 1836. Two vessels were secured with animal ligatures, (the deer-sinew,) and the wound dressed in the usual way. Adhesion was effected *completely* by first intention, and the ligatures, on the 18th Oct. separated even with the cicatrix, leaving the knots within, which must have been absorbed subsequently.

On examining the joint, the patella was found completely dislocated to the inner side of the knee, its internal face ulcerated, and its ligaments much enlarged; the head of the tibia was applied to the posterior surface of the condyles, which had sustained a loss of substance equal to half an inch in depth; the inter-articular cartilages were partly destroyed; all the soft parts red and edematous; and the joint filled with pus.

Case 4. Affection of the Knee and Foot—Amputation.

The subject of this case was Ned, a negro boy about 15 years of age, the property of Mr. I. S. Tuttle. He had for several years been afflicted with a swelling of the left knee, which resisted all the usual remedies. From the knee, the swelling extended down the leg and occupied the whole of the foot, which finally became the seat of ill-conditioned ulcers, and of great pain, depriving the boy of rest, and seriously impairing his appetite. It was observed that his growth had been very much retarded, and that his general health, though not seriously injured, was beginning to suffer.

Several physicians having decided on the propriety of amputation, this was performed, above the knee, on the 11th March, 1837, by Dr. Dugas. The vessels were secured with ligatures derived from the deer's tendon, as in the above case, and the same dressing applied; yet on removing the dressing on the fourth day, union was found to have taken place in but one half

of the wound. The stump being daily washed with diluted chloride of soda, and the flaps kept together with adhesive strips, healed in a fortnight, without further trouble.

The joint, on being laid open, evinced a very red and infiltrated state of the synovial membranes and circumjacent tissues, and slight erosion of the cartilages.

Remarks. In both of the above cases the circular method of amputation was adopted, and in both similar ligatures and dressing were employed. Yet how different the result! In the first, adhesion was *complete* on the fourth day; whereas in the latter, it was but half effected in the same time. Whence the cause of this difference? Shall it be referred to some unperceived peculiarity or disturbance of the dressing, or shall it be looked for in the condition of the patient's general system? Such enquiries merit the serious attention of the profession, and should be specially attended to by Hospital Surgeons, whose opportunities are extensive. In the case referred to, no derangement nor defect could be detected in the dressing; the want of total adhesion must, therefore, have depended on a deficiency of curative energy in the system.

On the first removal of the dressing, in case fourth, although but one half of the stump adhered to the flaps, these adhered to each other in the whole extent of their lips. Now, the pus interposed between the remainder of the stump and flaps, must have been originally yielded, either by the whole, or by a part only of the surface with which it was in contact. I agree with Dr. Dugas, in the belief that it was probably first produced by the presence of the ligatures, and that having no exit, it accumulated and tore up adhesions already formed between the flaps and stump, and that had the removal of the dressing been delayed a day or two longer, the whole of the stump would have been similarly denuded. If such be the fact, we should deduce from it a strong objection to the prevailing custom of delaying the first removal of the dressing to the fourth day. Would it not be prudent, at least, to remove as early as the second day, so much of the dressing as would permit any formation of pus about the ligatures to be detected?

Another consideration presents itself with regard to cases third and fourth. The loss of so important a limb as the leg, should be very differently estimated in the different classes of

society. Whilst to the gentleman of fortune it would be a horrid deformity, and the destruction of most of his enjoyments; and to the free laborer, it would, in many instances, constitute the loss of the means of subsistence for himself and family; it is to the slave a matter of comparatively little importance. Idleness being his greatest enjoyment, and having but few wants, and the certainty that these will always be met by his master, the negro dreads nothing from the operation but the pain it may occasion. This once over, he rejoices that the source of his discomfort has been removed, and no desponding hallucinations supervene, to disturb or to impede the efforts of nature to heal the wound. Hence it is, that such operations are much less fatal to the negro than to the white man; and hence it is, also, that we should hesitate much less to remove a limb, whose affection endangers the life of the patient, if he be a slave, than if he be a free man, and especially a white man. Such considerations doubtless influenced the decision in case fourth, which some might think ought to have been subjected to still further efforts to save the limb. Further delay, however, would have materially diminished the chances of success, by permitting the general health to become seriously impaired. As it is, the lad's life has been saved, none of his comforts sacrificed, and he is in the full enjoyment of fine health; nor has his master sustained any loss, for he has made him a cobler. A poor Irishman, whose leg I amputated for a dreadful injury sustained by a rail road car, now wanders about a miserable beggar!

Case 5. *Aneurism—Ligature of the Brachial Artery.*

Billy, a negro man about thirty years of age, belonging to James F. Hamilton, Esq. was bled in the left arm during the first week of April, 1836, by a fellow servant, who wounded the brachial artery. Not aware of the accident, he corded up the arm, and the incision healed kindly. About a week after, perceiving a swelling at the bend of the arm, and experiencing pain from it, Billy consulted a physician of the neighborhood, who applied over the tumor a bit of sheet-lead and a tight compress, without at all impeding its development. On the first of June following, the patient was sent to Augusta, and placed under the care of Dr. Dugas. The arm was then found to present, at its bend, a tumor the size of a turkey's egg, though not regularly globular,

pulsating strongly. The pulsations produced under the finger a very strong thrilling sensation, which also extended several inches above and below the tumor. Pulse at the wrist normal—Basilic vein very much enlarged, and pulsating slightly—The bruit-de-soufflet (bellows-sound) strongly marked in the tumor—Health otherwise good.

4*th June.* Dr. Dugas placed a ligature of cat-gut on the brachial artery, midway between the elbow and axilla, and dressed the wound with adhesive strips, leaving one end of the ligature out. The pulsations in the tumor and wrist were immediately arrested.

5th. Considerable febrile excitement; passed a restless night from pain about the shoulder; arm and hand became very cold and benumbed last evening, but warmth was restored by hot bricks, &c. *Pulsations distinct*, though feeble, in the radial artery at the wrist; none in the tumor. Prescription, gruel diet.

6th. No febrile excitement; *no pulsation* in radial artery nor tumor. No pain; feels quite comfortable; temperature normal.

7th and 8th. No pulse in radial artery—temperature normal.

9th. Pulse distinct in radial artery, and behind the elbow—none in the tumor—feels well.

12th. Ligature came off even with the cicatrix, adhesion having taken place.

14th. The tumor has not diminished, but has become quite hard. In order to excite its absorption, a tight bandage was now applied from the fingers to a little above the tumor. The patient walks about the streets.

20th. Small fragments of the ligature came away by ulceration.

25th. Aneurismal tumor very much softened and as large as ever—signs of fluctuation, but no pulsation. It was laid open freely, and found filled with fibrin, so firmly attached, as not to come away, with the small quantity of pus diffused through it—a tent placed in the wound.

27th. Tumor much diminished—suppurates slowly—no pain.

14th July. Tumor has almost entirely disappeared—the opening into it is nearly closed. The use of the arm is perfect. The man sent home.

Information received, since the last date, that the wound

healed in a few days after the patient's return home, and that he has since felt no inconvenience from the operation.

Remarks. In the above case it is evident that the artery was punctured by the lancet after having transfixed the super-imposed vein. Yet the tumor was formed neither at the expense of the artery nor of the vein, but in the surrounding cellular tissue. At the same time, however, that the effused blood was thus contained in the cellular tissue, it communicated freely both with the artery and vein, as was evidenced by the pulsations transmitted by the arterial circulation to the tumor and to the basilic vein. The vein thus receiving an increased quantity of blood became considerably enlarged.

The bellows-sound, the cause of which when occurring at the heart is yet involved in some mystery, was, in this, remarkably audible, and can only be attributed to the forcible propulsion of a column of blood through a narrow aperture leading into a large sac. The aperture existed, moreover, in a tube whose coats present a considerable degree of density and of resistance; and to this fact may, perhaps, be referred, much of the sound as well as the peculiar thrilling sensation transmitted along the vessels. These circumstances, though not novel, are worthy of attention, inasmuch as they may assist in determining the cause of similar sounds and vibrations, when occurring in situations more remote and of more difficult observation.

A singular circumstance will be observed in the progress of this case; I mean the fact that the pulsations at the wrist which had been arrested by the ligature, returned on the day after the operation, and then ceased again completely for several days. The only explanation we can offer for this is, that on the day after the operation, there existed a considerable degree of febrile action, by which the blood was propelled with more force through the new channels of circulation than subsequently when the excitement subsided, and that the heart's ordinary impulse was again felt only when the anastomosing vessels had acquired an increased caliber. The pulse was then felt not only at the wrist, but also in the enlarged vessels behind the elbow.

Finally, it should be noted, that fragments of the ligature, which was made of cat-gut, were not absorbed after remaining imbedded in the living tissues sixteen days, but at the end of this time were thrown off by ulcerative process.

Case 6. Removal of a large Adipose Tumor.

Mrs. W. of good constitution, and about forty five years of age, had a large tumor, the origin of which she attributed to a fall sustained in early life, situated over the spine between the scapulæ. It had been gradually increasing for upwards of 20 years, but never occasioned serious inconvenience until its size and weight became such as to produce, at its attachment, a sense of dragging, and finally considerable pain. The skin over the tumor was healthy, and the diagnosis offered no difficulty. Dr. Dugas, therefore, resolved to remove it, and operated on the 15th October, 1835. The tumor was removed with a portion of skin included between two eliptical incisions, about fifteen inches in length. Two vessels being secured by Amussat's process of twisting, and a number of others by ligatures, the flaps were brought together by three stitches and adhesive strips. Adhesion was completely effected by first intention. The cicatrix was, in a short time, reduced to ten inches in length.

The tumor presented a lobulated appearance, and consisted of apparently healthy fatty matter, contained in hypertrophied cellular tissue. It measured thirty inches in circumference, although its weight was only fifty four and a half ounces.

Remarks. This offers nothing new, but illustrates the facility with which such immense tumors may be removed, and the readiness with which adhesion takes place, under certain conditions of the system.

Case 7. Foreign body in the Esophagus six weeks—its extraction.

A boy about five years of age, the son of Mr. J. L. of Augusta, was playing with a large ivory button in his mouth, when he accidentally swallowed it. Presuming it had passed into the stomach, no notice was taken of the event until meal time, when the boy complained that he could swallow nothing but liquids, and that even these occasioned pain in the esophagus, opposite the upper extremity of the sternum. It was now presumed that the button had lodged in this part of the passage, and a physician was called, who introduced without difficulty an elastic tube into the stomach, without detecting any thing indicative of the presence of the foreign body. The presumption was that the painful deglutition was to be attributed to abrasion of the mucous sur-

face, and the boy was ordered to use liquid and unirritating food. This state of things continued several weeks, during which time the tube was again passed without obstacle into the stomach—emetics, I believe, were administered, &c.

At the end of six weeks Dr. Dugas was called, and on examination detected the presence of the button at the seat of pain, and withdrew it with a common probang. It was of ordinary thickness, and measured one inch in diameter. No unpleasant effect followed its removal, and the soreness soon subsided.

Remarks. This case presents the remarkable fact, of the presence, during six weeks, of a foreign body in so delicate a texture as that of the œsophagus, without occasioning any serious inflammation, and without disturbing the general health. It was so low down as not to be felt by external pressure, and the button having *no eye*, permitted the free passage of the small tube.

Part II.—REVIEWS AND EXTRACTS.

DIVISION OF THE TENDO-ACHILLIS AND OTHER TENDONS.

ABSTRACT OF A CLINICAL LECTURE BY MR. LISTON.

(Delivered at the University College Hospital.)

Division of the Sterno-mastoid, for Torticollis; of the Tendo Achillis for Club foot; of Flexor Tendons for Contracted Knee Joint; of the Tendons of the Toes, for Inflamed Corns, &c.

In the commencement of his lecture, Mr. Liston said, the division of tendons for the cure of deformity, was by no means a new proceeding; it was frequently resorted to by many of the older surgeons, among whom were John Mekran, and Mr. Sharpe, a surgeon of Guy's Hospital, nearly a century since, which latter was in the habit of dividing the origin or attachments of the sterno-mastoid muscle, for the cure of torticollis. This operation had been repeated of late years by Sir B. Brodie, by the late Baron Dupuytren, and he, Mr. Liston, had seen cases in which its performance was attended by good results. It was a proceeding, however, which was not frequently called for, inasmuch as the twisted state of the neck was generally produced by disease of the vertebræ, or from a painful swelling or ulcer on the side of the neck, producing such an alteration in the structure of the part, as to render operative proceedings useless. Delpech might justly be considered as the founder of the operation of dividing the tendo-Achillis for the cure of club-foot. He had related in his "Chirurgie Clinique" several cases of varus, as they were called, and described the plans of his apparatus for carrying out his mode of curing them. One or more cases were related in which the tendon was divided. His plan was to make a longitudinal incision on each side of

the tendon, through which he slipped his knife, and divided the tendon from before backwards. Within the last year or two a great number of cases in which the tendo-Achillis had been divided, had occurred, and were related by the operators, Stromeyer, Dieffenbach, Guerin, and Dr. Little, who himself was the subject of varus, and had published a thesis on the deformity. This gentleman had also latterly published a number of cases in which the tendo-Achillis was divided for the cure of deformity, to which he had given odd and long-sounding names, such as talipes equinus verus, &c. &c. The deformity of the foot presented itself in a variety of forms. When the under part of the foot was turned inwards, the deformity was termed varus. In other cases the foot was turned outwards. The first, however, was the most common deformity, and in this case the toes were turned inwards, the patient rested on the cuboid bone, and the root of the metatarsal bone of the little toe. The bones of the foot in this kind of deformity were little altered in form or appearance. They had attained their ordinary size, and were little distorted regarding their position one with another. After a time, however, if the deformity was not remedied, the bones on the inner side of the foot diminished in size by interstitial absorption; the internal cuneiform, the os calcis, and the soft parts covering them became altered. The patient rested on this part, the integuments of which became thickened, and a bursa formed in this situation. The limb on the affected side, to the knee-joint at least, lost its size and strength, the muscles becoming soft and flabby, and losing their red appearance. In many cases which were met with, the heel was much elevated, owing to the natural shortness of the gastrocnemius and soleus, and their combined tendon; other tendons were also necessarily shortened, while, on the other hand, some tendons, as those of the peronei, were of course elongated. Sometimes, in the deformity called "horse-foot," the patient rested on the distal extremities of the metatarsal bones; this deformity was congenital, sometimes affecting both, sometimes one of the feet. A variety of apparatus had been invented for the purpose of curing these deformities, almost every instrument-maker having a plan of his own. The celebrated Scarpa had recommended one kind of instrument, Delpech another, and Mr. Colles, of Dublin, another. Sometimes the use of an iron, which passed up on each side of the leg, if continued for years, might affect a cure, but there was always much opposition from the contracted state of the tendons, particularly of the tendo-Achillis, the division of which much accelerated the cure, leaving the instrument-maker much less to do, or at all events diminishing his difficulties. When the tendo Achillis was divided by accident, it united after a time in a favorable manner, a substance being deposited between the ends of the divided tendon; this substance became dense and fibrous, and could not be distinguished from the tendon itself. Horses were subject to an acquired deformity, in which they walked on the point of the hoof of one of their feet. Most of the pupils had seen horses going about with this deformity. Veterinarians had long been in the habit of cutting across the flexor tendons for the relief of this state; they were not at all particular as to the mode in which they performed the operation; they just drew the knife across the leg, and brought the foot into its proper position; the tendons soon united, even though, in some cases, there was a space of three or four inches between the ends of the divided portions, new matter, resembling the original tissue, soon filled up this space, and the cure was completed. It was from reasoning on these facts that Delpech was induced, in 1816, to resort to the proceeding of dividing the tendo-Achillis, but he cut through the integuments awkwardly. (Mr. Liston here exhibited several casts, also specimens of the deformity, at various ages, dissected, and a horse's tendon, which had been cut and united.) There, said he, was a specimen of varus; and there two cases in which the foot was permanently extended, the patient, in one case, having walked on his toes with one foot; in the other, both feet were affected from birth. In all these cases the foot was brought into the

natural position by division of the tendo-Achillis, which proceeding materially assisted the apparatus maker. He alluded shortly to a case of acquired extension of both feet which had occurred some years ago during a severe attack of rheumatic gout, or rather of gonorrhœal rheumatism. The heels could not be brought within several inches of the ground; the patient had been to watering places, and had been most judiciously and anxiously treated, but without relief. The tendons, in a most rigid state, were divided with great benefit. The operation was easily performed; there was no necessity of dividing the integuments; a small punctured wound with a very narrow bistory, or what was better, with a needle somewhat resembling a cataract needle, being sufficient. He had divided many with that needle (showing it) with scarcely a perceptible external wound; the tendon was first to be felt for, and being found, the instrument was to be passed close to it, between it and the bone; there were no blood vessels or nerves likely to be wounded; the point of the instrument was then to be turned towards the tendon, which was to be tickled through and divided gradually; the division was indicated by an audible snap. There was a slight effusion of blood internally about the ends of the divided tendon, but there was no mark or external injury, no swelling, inflammation, or its consequences. The extremities of the tendon soon poured out plastic matter, and this uniting medium, at the expiration of about ten days, might be extended by means of the apparatus employed for this purpose, and in six weeks the foot would be brought into its natural position. In this case (showing a cast) the patient's foot was not only extended but turned inwards. A cure was effected by a rod which passed up the inner side of the foot. In this case (showing another cast) the patient had distortion of the spine accompanying the deformity of the foot. In two months after the division of the tendon he was able to walk about, the foot being of the natural shape, and altogether of a better form; there was only a little bulging to be perceived in the situation of the divided tendon. There (showing the bones of a foot) was a case in which all the bones were altered in form; the os calcis was smaller than usual. The patient walked all his life on the out-side of the foot; a large bursa had formed underneath the thickened cuticle.

The division of tendons answered the purpose of curing deformities in other situations. A case had been in the hospital in which the knee-joint was contracted. The tendons of the semi-membranosus and semi-tendinosus were divided. The contraction in this case, resulted from an attack of rheumatism some time since. After the tendons were divided, a screw-joint apparatus was applied similar to that used in fractures of the bones of the leg, by which means the leg could be gradually extended from day to day, by turning the screw. The knee-joint of this patient originally formed a right angle, but she was now enabled to put her toes to the ground, though she was still obliged to use crutches. He, Mr. Liston, would get the knee extended an inch or two more, if possible, not quite straight, however, as the patient would not walk so well as though it were slightly bent. He hoped, by dividing the tendon of the biceps to produce this extension.

He, Mr. Liston, had also latterly divided the tendons of the toes—an operation, he believed, entirely new—for a common deformity. We often find the toes bent permanently; the middle toe, generally, sometimes the little toe, which stood up above the others. This deformity was either congenital, or arose from the use of tight shoes. The integument on the convexity of the joint became thickened, and a corn formed. The pain in these cases was sometimes so severe that the patient begged that amputation might be performed. A corn, as the students were aware, not only consisted in a thickened state of cuticle, but there was often a small adventitious bursa underneath it; this bursa sometimes inflames and suppurates; here was a specimen in which this was seen, (showing a preparation) and in this case the toe was amputated. In this specimen the papillæ of the cutis were also much

enlarged; this occurred from the greater demand for the secretion of cuticle, as was also observed in the paw of the dog. Some chiropodists, as his friend, Mr. Durlacher, were very dextrous in cutting out a corn, and with scarcely any pain, by which means a cure was effected, but in cases in which the toe was, from its awkward position, constantly subjected to pressure, the suffering was much increased, and interference with the corn was of little use. It was in such cases that patients applied for the performance of amputation. He, Mr. Liston, had some time ago, been requested by a gentleman to amputate both his little toes, which had became affected in the way described. In this case he did not wish to remove the toes, but the suffering was so great that the patient insisted on its being carried into effect. At length it was agreed that one toe should be removed, on condition that the other toe should be treated as he, Mr. Liston, wished, by the division of the extensor tendon. This proceeding was accordingly adopted. The toe, the tendon of which was divided, was brought into its proper position, and the foot soon became healthy and well. The patient was laid up with the foot from which the toe had been removed, for five or six weeks, an abscess having formed on the dorsum; and he did not go sound for a long time after with this foot, while with the other he need not have been confined a single day. He (Mr. L.) had operated on cases of a similar nature successfully, and had others under his care, in which he meant to pursue the practice. It did not deserve the name of an operation, being unattended with pain, or the loss of more than one drop of blood. *Ectec. Jour.*

Lecture on Clinical Medicine, "Dropsy as a consequence of the disease of the heart," delivered at the Philadelphia Medical Institute, by W. W. Gerhard, M. D. *Physician to the Philadelphia Hospital, &c.*

In concluding the subject of the diseases of the heart, I have only to speak of their complications and of their terminations. You have witnessed most of these complications, and have had numerous opportunities of observing those which occur most frequently, namely, dropsical effusions. In watching the course of a heart disease, we expect that the patient will, sooner or later, become dropsical. We know that the various forms of dropsy may be called the natural termination of disease of the heart, and that when the effusion of serum is not sufficiently abundant, and does not occur in such a situation as to cause death, it is still a cause of serious inconvenience to the patient. Hence you are, as it were, obliged to be upon the alert, and must endeavor to detect this complication at its earliest appearance, and to recognise the signs by which it is preceded. That is, you must not only render yourselves familiar with the more evident phenomena of dropsy, but with those more obscure symptoms which precede the effusion of serum. Almost every important lesion is preceded by more or less constitutional disturbance before it actually manifests itself; this is the case with dropsy occurring in disease of the heart.

Besides dropsy, which may be termed the natural termination of heart diseases, these affections sometimes end prematurely, from some unforeseen accident; such, for example, as the occurrence of pneumonia, which is much more dangerous in persons laboring under a disease of the heart, than in those who were previously in good health, or what is still more sudden, death may instantly ensue from an arrest of the heart's action. This latter kind of termination is by no means rare in this class of patients; it sometimes occurs without the slightest premonitory sign; the patient may be nearly in his usual degree of health, when, from some accidental cause, the heart for a moment ceases to beat, and death immediately follows.

These accidental terminations, you have also seen: you may recollect the case of endocarditis complicated with pneumonia, which proved fatal, and

you may remember how suddenly one or two patients were carried off, without having previously offered more than the usual symptoms of slight disease of the valves. My present object is not, however, to insist upon a class of sudden deaths which can rarely be foreseen, and which can almost never be prevented; nor do I propose just now to speak of the complication of heart diseases with acute inflammation of the lungs; but I will merely recapitulate the symptoms which you have recently observed in some patients who have suffered from the common, and, as it were, the regular complication of valvular disease of the heart, that is, from dropsy. I shall select for this purpose three cases, and although I have the complete observations before me, it may be more useful just now to confine ourselves to giving a condensed statement of two of them, instead of entering into details which are of great utility, but may somewhat impede our examination of the subject under the single point of view in which we are now examining it. The third case I shall give more in detail, as it occurred more recently, and is very interesting from some therapeutic difficulties which it offered.

William Elfrey, aged seventy eight, born at Philadelphia, entered the hospital October 9, 1838. He had been a cooper for the last six years in the house, and in the habit of moderate drinking. Before admission, he was sensible of short breath *only* for three weeks; never had dyspnœa on ascending, until about that time. Cough began at the same time, with expectoration of whitish mucus. Great oppression at the epigastrium; was not conscious of palpitation, except on ascending; was unable to work for last six months, on account of the failure of his eyesight; œdema of the legs since last week; swelling of the abdomen moderate; unable to lay at night for two weeks, and obliged to sit up, inclining forwards; cough worse at night, in spells, one every hour or two; no pain, only a sensation of suffocation; has had no piles; no epistaxis or hæmorrhage from the lungs; *never ill but with ague*, seven years since, when he had had it for *five years;* never had rheumatism—occasionally a little pain in the feet. His condition at the time of his entrance was the following:

Dark complexion; large frame, but rather emaciated; hair and teeth still preserved; yellowish, jaundiced complexion; œdema of lower extremities; position, seated; nostrils dilated; very little lividity of face; respiration forty five, very high; pulse one hundred and eight, tolerably resisting, very irregular; the artery ossified; coldness of extremities; cough in paroxysms—has had three this morning; thin, watery, mucous expectoration; conscious of no palpitation; complained of uneasiness in epigastrium and hypochondrium, where there were evident prominence and flatness as far as the umbilicus; sounds of the heart confused—the second almost lost; impulse very moderate; first sound loud and rough; flatness below fourth rib in the præcordia complete, passing from thence to the nipple, where it became continuous with the flatness of the side; on the right side flatness complete below third rib; respiration on left side natural and expansive above fourth rib; respiration absent below upper third; posteriorly, respiration vesicular throughout left side—feeble towards the base, where percussion was dull; on right side posteriorly, very feeble in lower two-thirds; percussion very obscure. A pediluvium was ordered, with the infusion of the melissa officinalis, and three grains of Dover's powders, and a quarter of a grain of digitalis, every three hours.

October 10th. Last evening was cupped eight ounces to the præcordia; fits of dyspnæa ceased; poultice applied immediately after cupping; skin was warm after balm tea; *now* lies with head a little elevated, much less than yesterday; less oppression; respiration twenty three, less elevated, by an alternate movement of the ribs and diaphragm; pulse ninety two, fuller, less irregular; skin cool at extremities, but less so than before; face a little livid, with permanent dilatation of the nostrils; tongue a little blue, moist, clean; still dizziness; intellect less dull; urine evidently increased—two or three

discharges this morning; respiration, left side, anteriorly, louder and fuller; on the right side, much louder—feebleness of it extending scarcely above the nipple; dullness on percussion to the same extent; impulse of heart very moderate; both sounds heard, something like the double tick of a watch; creaking of parchment doubtful yesterday, clear to-day; percussion flat to fourth rib; posteriorly, respiration, right side, inferiorly, rude; percussion much clearer, a little dull at base. Balm tea, Dover's powders, and digitalis, continued; poultice.

October 12th. Pulse one hundred, less irregular; five paroxysms from 12 o'clock yesterday, until the evening; skin more natural; no sweating; can lie with less head at an angle of forty degrees; œdema of the legs much less; no swelling of the abdomen; cough less severe; no soreness at epigastrium, less tension; lips less injected; bronzed colour of the skin less marked; tongue moist, still somewhat purplish; respiration on right side anteriorly, vesicular and feeble, at lower fourth, almost absent—throughout, a little harsh; left side louder than on right, vesicular—absent over præcordial region; creaking now very loud at the level of the valves, evidently not valvular sounds; can be felt as well as heard; extends to the sternum, a space one and a half inches square; sounds of the heart louder; second almost lost, accompanied by bruit de cire; rhythm altered; impulse stronger than average; to the right of the sternum both sounds heard a little altered; percussion dull over the fourth rib, to an inch beyond the nipple, where it is lost in the axilla, perfect near the sternum, extending to the right margin; respiration posteriorly left side, at the inferior one third absent; upper two thirds vesicular, nearly natural; right side, absence of respiration almost complete in lower one half, slightly bronchial; œgophony on both sides corresponding to the level of the liquid; higher on right than left; continue treatment.

13th. Slept much better than before; had two or three paroxysms last night, none this morning. Lies with his head much lower; pulse eighty four, very irregular; thinks a paroxysm is coming on; asks for powder, thinks they shorten the paroxysm; dyspnœa much less. Some rasping in the first sound of the heart; absence of second almost complete at the semilunar valves; creaking occasionally heard, most loud over the middle of the heart, both in the systole and diastole. During auscultation, a paroxysm coming on; action of heart becomes quicker, spasmodic; the bruit de cire more constant, louder; impulse increased; same sound heard in both sounds, but less loud in second; powders continued every four hours.

15th. Sleep has been very good since last date; can lie on either side, with his head very low; oppression almost gone; pulse sixty eight, less irregular; no cephalalgia; no pain any where; cough very slight; tongue moist, scarcely coated; urine abundant, about three quarts daily; no sweating; abdomen flaccid; tension at hypochondrium almost gone; no swelling of the feet, tongue moist, but still of a purple tint, as well as the lips; top of skin generally less bronzed; two stools; respiration easy, fourteen; respiration on left side anteriorly vesicular, almost natural, except at the base of the axilla, heard distinctly over the heart; impulse of the heart much stronger; strong rasping sound in the first; second almost lost; a little creaking heard at times. Percussion sonorous below four h rib; flatness from thence continues with the region of the pleura, not connected with the pericardium; posteriorly, respiration vesicular throughout; powders continued morning and night; infusion of juniper berries; full diet.

17th. Decubitus low, nearly horizontal; pulse sixty, irregular; respiration twenty; tongue less livid; lips less so; urine continues copious—between three and four quarts—no swelling; cephalalgia better; two stools daily; powder once daily; continue infusions.

22nd. Convalescence has continued; the patient is walking about; full diet given after the first four days; walks up stairs without difficulty; very little shortness of breath; no cough; no pain.

Auscultation of the heart strongly rasping, severe in the first sound over verge of the semilunar valves; a little grating heard towards the apex; and different from the action of the valves; on right side of sternum, where the second sound is most developed, the rasping continues; impulse at the top of the sternum strong; which is synchronous with that heard at valves; and second transmitted along aorta; impulse evidently distinct; respiration dull at upper third of sternum; flat at lower two thirds extending to nipple, but not to axilla; not to right of sternum.

Discharged, cured of the acute affection. There remains chronic disease of the valves of the aorta with hypertrophy and dilatation, with patches of lymph in the pericardium

This patient was employed, as you perceive, in the out-wards of the institution, and suffered so little inconvenience from his disease of the heart, as to be quite unconscious of its existence; there were neither dyspnœa nor palpitations sufficiently severe to prevent him from following his ordinary occupation. He is, however, afterwards attacked with a new complication: that is, acute inflammation of the pericardium, and in a slight degree of the endocardium. This complication at once increases the dyspnœa offers an additional impediment to the circulation of the blood through the lungs and heart, and is quickly followed by dropsical effusions.

When the patient entered the hospital, there was œdema of the limbs, and effusion into both the pleuræ and the pericardium, that is, hydrothorax; we were able to trace the quantity of liquid then contained in the cavities, and we could also estimate the rapidity of its absorption, by the gradual subsidence of the line of dullness. By physical examination we could go still further in our diagnosis, and ascertain that the heart was at first separated to some distance from the walls of the thorax, by the liquid effused into the pericardium, and that in proportion as the effusion diminished, we heard a grating sound at the prœcordial region. This creaking sound was a proof that the effusion into the pericardium was not simply dropsical, but that it depended in part, at least, upon an inflammatory action in this cavity.

You have observed how intense the dyspnœa appeared at the entrance of the patient; he was obliged to sit up and lean forward, breathing with extreme effort, and obviously laboring under an almost complete stagnation of the circulation. The heart performed its functions with great difficulty, its cavities were surcharged, and the lungs were, therefore, over loaded. The same impediment to the circulation, gave rise to coldness, lividity, and œdema of the extremities. The patient was obviously in danger; the circulation required to be relieved, and at the same time, in the effort to diminish the quantity of blood in the heart, we are bound to avoid increasing the feebleness of the patient, for in these cases a very slight abstraction of blood may do harm. I therefore directed sinapisms to be placed upon the extremities, with a warm infusion of the common balm, as a drink. Dover's powders, combined with digitalis, were to be given internally, but these remedies could not, of course, produce any immediate effect. I directed cups to be applied, if the circulation should again become more vigorous; the sinapisms and warm drinks were followed by some relief; but the patient was not cupped until complete reaction had occurred; he was immediately relieved by the cupping, and continued to improve, until the effusion had completely disappeared.

When you meet with cases of this kind, you may generally relieve them, provided they have occurred suddenly; if, however, the dropsy has come on more slowly, and is connected with an enfeebled state of the system, and a diminution of the quantity of red globules in the blood, you will meet with much more difficulty. When the patient has not completely lost the vigour of his constitution, he may readily react from the temporary depression caused by the impediment to the circulation, but it is always expedient first to resort to measures designed to excite the circulation in the exterior of the

body, such as fomentations, sinapisms, stimulating pediluvia, and warm drinks. You may, afterwards, as soon as the circulation has become more equalized, unload the heart and large vessels, by taking blood from the arm, by free cupping over the præcordial region, or between the shoulders. When you have succeeded in your treatment, and have diminished the dyspnœa, you may place the patient upon the use of digitalis. As you may have remarked, I frequently combine this remedy with Dover's powders, and in this way tranquillize the action of the heart more effectually than could be done by the digitalis alone.

One of the other cases to which I have alluded, is now in the wards. It is Wise, a patient who labors under the unfortunate complication of phthisis, and dilatation and hypertrophy of the heart, with its antecedant disease, general dropsy. The tuberculous disease is chiefly confined to the right lung, which is adherent throughout a considerable part of its extent. Now, the effused serum cannot accumulate in the right pleura, in consequence of these adhesions, and it is therefore collected in such quantities on the left side as to give rise to the most distressing dyspnœa. It is also secreted in considerable quantities in the pericardium. Of course, the disease of the right lung diminishes the quantity of pulmonary tissue still permeable to the air; the patient, therefore, suffers doubly from the hydrothorax.

The dropsy extends to the extremities, as well as the parts of generation, and annoys the patient very much from the pain which he suffers in the scrotum and penis. The anasarca commenced suddenly after making a violent effort in lifting a heavy beam. From the symptoms offered by the patient after his admission, there was reason to believe that in this case, as well as in that just related, the dropsy coincided with an acute inflammation of the heart, occurring during the course of chronic hypertrophy. The patient is still in great danger, and the treatment is necessarily difficult from the numerous complications of the disease, which require to proceed with extreme caution. I am now carefully puncturing the thighs and scrotum, applying bandages to the legs, and giving the patient a pill three times daily, composed of three fourths of a grain of digitalis, a sixteenth of a grain of calomel, and a third of a grain of opium. He takes also an infusion of juniper berries, as a ptisan.

The third patient is a mulatto, named Henry, who was twice under treatment. On the first occasion, anasarca came on simultaneously with pericarditis. He was entirely cured of the dropsy, and the disease of the heart was reduced to simple hypertrophy and dilatation. The man left the hospital, commenced a laborious employment of the most unsuitable kind, drawing a hand-cart, and was exposed to a shower of rain. The next day after this wetting, he was attacked with dyspnœa and palpitation, and in a day or two afterwards was obliged to enter the ward for a second time: the patient was again treated for anasarca with little success; ascites afterwards supervened, he was tapped, suffered little inconvenience from the operation, and, after a partial improvement, was carried off suddenly, without any previous increase in the alarming symptoms. Upon examination, the heart was found to be enlarged, it was thickened, and its cavities were dilated to nearly twice their natural size; the valves were nearly in the natural state. Organized patches of lymph and partial adhesions, were found in the pericardium. I mention this case, that you may again remark, how frequently acute inflammation of the membranes of the heart complicates a chronic disease, and proves the exciting cause of dropsical effusions. *Med. Examiner.*

Part III.—MONTHLY PERISCOPE.

Stone in the Bladder. It is not a little to be regretted, that chemistry and other means have not been more extensively and successfully applied, to the investigation of the causes and prevention of urinary calculi. When we contemplate the extreme and protracted distress of most cases of this disease, the ill success of merely *medicinal* powers, the severe and hazardous treatment of surgery, and the very frequent occurrence of this disease in many sections of the country, we perceive at once, that there is scarcely a topic presented for the investigation of medical men, of deeper interest to humanity, than the *prevention* of this malady.

Whilst we accord to surgery the full measure of its just claims —its indispensable value to humanity—that it is not only able to lessen and shorten affliction, but is life-saving—still, looking to the interests of humanity, we most earnestly deprecate the necessity for its use. It is, at least, a kind of *dulcamara*, for whilst it relieves pain and prolongs life, it is through the medium of the most severe inflictions. And we heartily rejoice that, though ever prepared (as all practitioners should be,) to encounter this dreadful disease with the gorget in hand, we have been allowed to grow grey, and our lithotomy apparatus to lie in case, unmolested—having never earned the cutler's bill. We greatly prefer our lot, in this case, to the glory of having performed a thousand operations for the stone without one unfavorable result. We only regret that we cannot say the same relative to the rest of surgery, and from the same cause ; that is to say, the absolute want of demand for it, within our cable-tow. We know of no cases of distress, from urinary calculi, having occurred in this section of country, so serious as ever to call for surgical aid ; at least, for extraction from the bladder—and of but one instance, in the whole population of our city and surrounding country, of a person for whom that operation has been demanded ; and that case occurred many years ago. The only cases, and these are few, are those in which gravel, or small calculi *pass*, more or less easily, with the urinary discharges ; and a few instances wherein, from the smallness of the urethra, these have lodged in the passage, so as to require a simple incision into the urethra for their removal.

Whilst such is our happy exemption from this disease, Dr. Dudley, of Kentucky, performed, on the 13th of October last, his 157th operation of lithotomy, on a boy of ten years of age, and which was the thirteenth case from the same county. And we should remark too, that it is not in *every* case presented to Dr.

Dudley, that he operates; but, simply those in which he may calculate with much certainty on a favorable result.

Would not an extensive and minute investigation into the character of the waters, diets, habits of life, &c. of those sections of country where this disease is most common, and these results compared with those of similar investigations where the disease does not occur, be calculated to contribute to prophylactic ends? Perhaps a more minute and critical examination of the history of the whole course of life, in those who are subject to calculus, might develope views of deep interest relative to the causes of this *ultima thule* of medicine.

We, nevertheless, rejoice, that we have in the science of surgery, a *corps de reserve*, for the good services of humanity *in extremis;* and that, in looking around, we have great reason to be happy in its achievements; particularly in the United States of America, where, *more than elsewhere*, it is, in general, practised with *judicious* and *prudent* boldness; and with a success, in this particular disease, *unequalled in any land.*

We hope to present to the public, in a future number of this Journal, some interesting results, in the practice of lithotomy, by Dr. Richard Banks, of Gainesville, Ga. Meanwhile, we give the following extracts from the late foreign journals as interesting, and calculated to inspire prudent confidence. The first is interesting on account of the early age of the subject, and all, on account of the magnitude of the calculi.

Lithotrity in a Child. M. Segalas lately presented to the Royal Academy of Medicine, a boy nearly five years of age, whom he had operated on with success, for vesical calculus. This child was weakly and affected with rickets, and did not appear to be more than two and a half, or three years of age. He was the oldest child amongst ten, upon whom M. Segalas had, as yet, operated. The calculus, in this case, was a large one, being an inch and a quarter in diameter. Twelve sittings were required to break it up, and on three different occasions fragments of the stone became arrested in the bladder. Notwithstanding these unfavorable circumstances, the boy was completely cured, and in the interval of the sittings was able to run about and play with his companions. On the whole, M. Segalas declares, as the result of his experience, that whenever the instrument can penetrate the foreign body, the operation of lithotrity, like that of lithotomy, presents the more chance of success in proportion to the youth of the patient.—*Gaz. Méd. de Paris.* Bost. Jour.

Lithotomy. Dr. Knight, Professor of Surgery in the Medical School at New Haven, recently performed the operation of lithotomy in Middletown, Conn. The calculus was *five inches in diameter, and weighed six hundred and ninety-one grains.* The patient is represented to be doing well.—*Bost. Med. Jour.*

Operation of the Stone. In the *Medical Gazette* for August, Surgeon Hugh Fraser, of the King's Royal Rifle Corps, at Corfu, gives the details of the *Successful Extraction of an Immense Calculus, by the* Bilateral Operation. The bladder was exposed by a transverse semi-circular incision, at the distance of eight or nine lines in front of the anus, and of a sweep of about

eleven or twelve on each side of the raphé towards the tuberosities of the ischium. The membranous portion of the urethra being reached, was slit open, and the beak of the Lithotome (set at nineteen lines and a fraction) planted in the grove of the staff, which had been held by an assistant. The operator taking hold of the staff, and depressing it, the lithotome was steadily insinuated through the prostrate, which made a little resistance; its entrance into the bladder was marked by a stream of urine.

"The lithotome was then deliberately turned from having its convexity looking sacral, to the pudic aspect, and withdrawn, having the beak directed to a point an inch below the umbilicus, the handle much depressed upon the rectum and anus. By this mode the prostrate gland is cut into about two equal portions, the one pudic, the other sacral; so that the floor of the incision is the rectum, the *traject* from the prostrate to the external wound almost perpendicular—an incision obviously much guarding against cellular infiltration."

After no little trouble by efforts to extract the stone with the forceps, and an abortive attempt by an assistant to break it down with a powerful lithotripotor, it was most luckily caught very firmly in the only diameter that it could possibly have been drawn through the perineum, and brought away without the farther assistance of the knife.

The calculus in shape and size, greatly resembles the egg of a turkey; and it is somewhat flattened.

"It has a bloody, rough growing coat, and would probably, in no long while, have become adherent to the bladder. Its weight is five and a quarter ounces—add a quarter splintered off its small end in the attempts at extraction, and you have a stone weighing five and a half ounces, apothecaries' weight. Measuring the long circumference, it is exactly seven inches, and the circular or short diameter, is six inches and three-tenths."

By a rapid transition from the Island of Corfu, in the Mediterranean Sea, to the town of Maysville, on the Ohio, we next notice the operation of lithotomy successfully performed on three subjects during the last summer, by Doctor John Shackleford, of the last named place. The patients were all youths.—*Eclectic Journal.*

Inflammation, and the restorative process. Dr. Macartney, Lecturer on Surgery in the University of Dublin, gives, in a late treatise on inflammation, the following theory and practice. "His views with regard to the connexion between inflammation and the restorative process, are original. According to his theory, this process, (the restorative,) does not depend upon inflammation, but is rather incompatible with it. Reunion and reorganization, he supposes to be effected in four different ways." (*Ed. Med. Examiner.*)

"First, by immediate union, without any intervening substance, such as blood or lymph.

"Second, the union by the medium of coagulable lymph, or a clot of blood.

"Third, re-organization without any medium of lymph or granulations, the cavity of the wound becoming obliterated by a natural process of growth.

"Fourth, the reparation by means of a new, vascular, and organized substance, called granulations.

"To the first of these modes of cure, I should wish to give the name of *immediate*. The second may be called the *mediate by lymph or blood*. The third, being compounded of different actions, I find a difficulty in distinguish-

ing it by a single name. It might be denominated the *approximating* or the *modelling* process of reparation, or that by a *natural growth*. The fourth mode of union should be termed *mediate by granulation*.

"The three first mentioned modes of restoration, are quite incompatible with the presence of inflammation; a slight degree of which may, however exist with the fourth. Not that I admit the growth of granulations to be an inflammatory process in itself. It ought rather to be viewed as the mode of reparation, adopted under the unfavorable circumstances of irritation, or a degree of inflammation being still continued, and proves that parts previously in a healthy state, are disposed to heal in despite of many impediments thrown in their way.

"The circumstances under which immediate union is effected, are the cases of incised wounds, that admit of being, with safety and propriety, closely and immediately bound up. The blood, if any be shed on the surfaces of the wound, is thus pressed out, and the divided blood-vessels and nerves are brought into perfect contact, and union may take place in a few hours; and as no intermediate substance exists in a wound so healed, no mark or cicatrix is left behind." (p. 153–4.)

"The union of parts with the medium of lymph or blood takes place in wounds, which either cannot, from the extent or shape of their surfaces, be brought into perfectly close contact, or where the parts will not sustain much pressure, without the danger of inducing inflammation. The lymph which issues from the adjacent surfaces, in the first instance, glues them together, and in a few days is found to have acquired some vascularity, and an imperfect degree of organization; after which, an external restraint for keeping the divided surfaces in contact becomes unnecessary." (p. 155.)

"When healthy parts are injured, although it may be to the greatest extent, if placed under the most favorable circumstances for carrying on their natural actions, the process of reparation is nearly the same, even in the human subject, as that which I have described as belonging to the animals of a simple structure. The pain arising from the injury soon ceases. No tumefaction ensues separating the edges of the wound, and its surfaces are not only disposed to lie in contact, but even to approach each other so much that they cannot be kept asunder by mechanical restraint; there is, therefore, no necessity for the effusion of lymph; and as there is no cavity to be filled up, granulations are not formed. The surfaces of the wound, although they come into contact, do not unite by vessels shooting across; they are smooth, red, and moistened with a fluid, which is probably serum, and present the appearance of one of the natural mucous surfaces of the body. If the parts have been killed by the injury, they are separated by simply as much interstitial absorption as is sufficient to set them free. The wound is finally healed by the same means which determine the shape of the natural parts of the body. It gradually diminishes in extent until it is obliterated, or it may be cicatrized before the surfaces are abolished; after which the same process of natural growth goes on, until no part of the original wound is left. The cicatrix which succeeds the cure of the injury by the modelling process, is small, pliant, free from those callous adhesions to the parts underneath, and the morbid sensations that so often belong to those cicatrices which have for their bases the deposits of lymph or the formed structures called granulations. When the modelling process or cure by natural growth goes on perfectly, there is no inflammation in the part, and the patients are so entirely free from all uneasy sensations, that I have known instances of their being ignorant of the real site and extent of the injury, until they had examined the part with their hand, or saw it in a looking-glass." (p. 53–4.)—*Medical Examiner, from Macartney on Inflammation.*

We are compelled, of late, by their intrinsic worth, to look to the more prominent Dublin Physicians, with great interest, for

every thing of practical value in their several departments; whilst we recognize in their practical value, the best assurance of sound theory.

But, apart from this direction of our confidence, we are prepared to go further than the editors of the Examiner, and say, that the doctrine held forth is not only "original," but that it is strictly true, and may well be set down as the perfection of medical philosophy relative to the restorative process in effecting reunion, reorganization, and final separation.

Tartar Emetic in Inflammation. On a former occasion, we gave a valuable extract from one of the Dublin Physicians, enjoining the *steady* application of cold, and the injurious consequences of disregarding this precept. The following extract from Dr. Macartney, on inflammation, through the *Medical Examiner*, is to the same therapeutic point, and is of like importance, so far as relates to securing the *good* effects of Tartar Emetic; but, on the other hand, we think there is not the same danger of actual injury from *re-action*, which is a natural tendency under alternations of heat and cold. Much injury has, of late years, been done by the unsteady application of this valuable sedative power (cold).

The same doctrine as is here held forth, relative to the importance of moderate but frequent doses, for maintaining a continuous and steady effect, is applicable to almost all medicines, as means of influencing the actions, secretions, or sensations of the system, such as expectorants, diuretics, diaphoretics, sedatives, anodynes, cholagogues, &c. &c.; especially in all cases wherein more than a single impulse is needed. This practice is sound in theory, and wholesome in effect; and is directly at variance with what are called *prompt* emetics, the 20 to 100 grains, or what are called *heroic* doses of calomel, (a medicine which should rarely be given *merely* as a cathartic,) hydro-cyanic acid, the use of poultices, &c. &c. But we hasten to give Dr. M's. suggestions on this important subject.

"*Tartar Emetic* he uses in smaller than the usual doses: 'the good effects of nausea depend on the feeling being steadily kept up for some time, and this can best be accomplished by very divided and frequently repeated doses of the medicine.' Externally, the remedial operation of a *moderate degree* of cold, is, he thinks, in most cases to be preferred. The application of *intense cold* is reserved for very severe injuries, compound luxations, for example, where the inflammation cannot be restrained by other means. The operation of cold and moisture must be uninterrupted to be of use. Irrigation, by means of the syphon, effects this purpose. The alternations of heat and cold to an inflamed part, which result from the imperfect renewal of cloths, dipped in refrigerant lotions, are necessarily hurtful; and the plan of irrigation, which we owe to the French, is a valuable improvement in surgery."—*Med. Examiner.*

Lead Lotion in Tinea Capitis. Dr. Macartney illustrates the importance of the *steady* employment of external applications, by his success with lead water in Tinea Capitis.

"The lead lotion never fails to cure tinea capitis, however long and obstinately the complaint may have resisted other remedies, provided the application of the lotion be properly conducted. The hair should be first shaved off; water dressing, or a poultice of any kind, is then to be applied, merely for the purpose of cleansing the skin of the crust, and all other impurities. There will then be seen, under each crust, a red spot of the skin, denuded of its cuticle, and the villous surface exposed. The lotion should now be applied by means of lint, thoroughly wetted with the fluid, and covered with a plate of India rubber, or a piece of oiled silk to prevent evaporation. Every time this dressing is changed, which should be very frequently at first, the head should be washed with some of the lotion, and the lint should be replaced by some that is clean, which is to be completely wetted with the lotion, and covered as before. The efficacy of this mode of treatment depends entirely on the head being continually subjected to the operation of an astringent fluid; for, if the application be suspended for one night, or even for a few hours, the peculiar viscid secretion which forms the crusts will reappear, and the whole treatment will have to commence again." (p. 182-3.) —*Macartney on Inflammation.*

We do not feel at liberty to allow this strong recommendation for the cure of Tinea Capitis, to go to the public from us, without a wholesome caution against such a plan of cure. Close observers have too often been brought to witness the ill effects of repelled eruptions, by the use of astringents and other repellants, in the production of other more serious and more fatal diseases, for prudent practitioners to venture upon such a plan alone. Many have been the cases in which the most serious consequences have followed the repelling of the slightest cutaneous eruptions—even of ring-worms. The same may be said of the suppression of inordinate perspiration of the feet; and, doubtless, it is because of the peculiarity of the perspiration of these parts ordinarily, that the influence of cold taken by the feet is generally so much more serious than the same exposure of other parts. We feel it a duty to state, in this place, that we earnestly believe that we were instrumental in laying the foundation of a fatal pulmonary affection, by one solitary prescription of the yellow wash, (merc. mur. fort. and aqua calcis,) for a salt rheum on the instep, not larger than the palm of a hand, but which had been occasionally very troublesome for years. The case was this—On passing the store door of a merchant in Broad street, with whom we were not before acquainted, he called our attention to an eruption on his instep, which was then considerably irritated, and discharged a sanious fluid, and was attended with itching and burning; all of which rendered it inconvenient for him to wear a stocking. On his request of advice for destroying the eruption, we gave him a formula for the yellow lotion. A few days after, we met him, fully dressed, and was informed that

the wash had completely cured the Salt Rheum. He continued apparently well for a few months, when a cough gradually acceded, attended with occasional pains in the breast. Not being his physician, we lost sight of him; and only learned from him, subsequently, when on his way southwardly, for a southern winter, that his eruption had never returned, but that the pulmonary affection, which was then at a very advanced stage, had progressively increased, without any particular exposure or other known cause. His case was then beyond all hope, and he died at the southern location which he sought, the following winter.

The almost total banishment of every thing like a rational humoral doctrine from medicine, for the last twenty or thirty years, has tended to conceal from the view of physicians, the important pathology which such facts declare. But facts should make theories, and these facts declare to us—not *action merely*, which being repelled will occur in another part, but *some morbific humor*, (let theory say what it may,) which imperiously demands the rigid adoption of such an alterative plan as will exterminate it from the system, *before* repellants are applied to these eruptions; however simple they may seem. This plan is made up of Regimen, Stillingia Sylvatica. Sarsaparilla, Guaiacum, Mercurial Alteratives, Antimonials, Plummer's Pills, vapor or warm water baths, &c. &c. But this is considered to be too serious a course to be adopted for such trifles. Let practitioners look at the great and serious results arising out of its neglect!

Warm Vapour, or Steam in Inflammations. Dr. Macartney observes, that those remedies which *affect in an agreeable manner* the sensations of inflamed parts, exert a powerful tendency to subdue the inflammation. Dr. Rush taught the same doctrine, but not to the same unlimited extent. Every practitioner knows the truth of this observation, to a greater or less extent; but, we presume, few are prepared to receive it as universally true. And, furthermore, the different terminations of inflammation should be kept in view, with their relative desirableness. For example, prompt and perfect *resolution*, is decidedly the most desirable. It follows, therefore, that a remedy "*affecting in an agreeable manner*" the *sensations* of an inflamed part, and tending to terminate it by promoting suppuration, when resolution is practicable, would not be a desirable remedy: but such as would have a prompt "tendency to subdue" it by resolution would be preferred. Now, both cold and heat would, in many cases, "affect in an agreeable manner" the sensations of the inflamed part. It follows, therefore, that in such a case, the unremitted application of cold, as "tending to subdue the inflam-

mation" by resolution, would be correct; whilst a warm, simple poultice, the tendency of which would be to terminate it in suppuration would be incorrect practice. The same doctrine is also applicable to a more advanced stage or degree of inflammation, in which suppuration is a desirable alternative from gangrene, &c. The same logick, may, therefore, be liable, when some modifying influences and circumstances are brought into the reasoning process, compel us to arrive at conclusions which are materially different in a practical point of view. But Dr. M. "has found the application to the skin, of steam at a suitable temperature, the best means we possess, of producing a grateful state of sensation." Therefore, it has "a most powerful tendency to subdue inflammation." Q. E. D. Now we are not disposed to controvert this conclusion in the general; for we know that it often "affects in an agreeable manner, the sensations of an inflamed part." We know further, that resolution does sometimes follow the application of warmth. But our observation goes, further, to inform us that its tendency is more to promote the suppurative stage and termination, than cold and some other discutient remedies, so called; as well as the fact that there are some cases of inflammation, in which heat, any way applied, does not "affect in an agreeable manner the sensations" in the part. Other circumstances, specifically characterising the present case, must, therefore, be taken into the calculation in arriving at a correct prescription. Doubtless, however, these views would be often most happily applied to practice; for we have witnessed this fact in many instances. Therefore, we take pleasure in giving the following description of the apparatus invented by Dr. M. "for the correct employment of steam, from the hottest degree at which it can be borne, down to below the standard temperature of the human body."

"It consists of a small tin boiler, supported on a platform, on which a spirit lamp is placed. The peculiarity of the vessel is, that the superior opening is an expanded funnel, in consequence of which the steam ascends from the boiler with a vertical motion, being attracted to the smooth and infundibular aperture. The effect of the steam escaping in this manner is to diffuse and cool it so much, that if the vessel be uncovered, the hand may be placed within an inch of the surface of the boiling water, without experiencing any unpleasant feeling of heat, although, if the steam be made to spread in a straight line, by diminishing the opening of the funnel, it will scald the hand held two or three feet above the water. The steam is conducted to any part of the body, by means of a tube of woollen cloth, about twelve inches wide and three feet long. Its cylindric form is maintained by circular pieces of whale-bone. One end of the woollen tube is tied round the contracted neck of the boiler, and the other end admits of being adapted to the shape of any part that is intended to be fomented, from holding within its opening a piece of flexible wire.

"By this apparatus, steam at any temperature may be applied for any length of time, with only the momentary interruption of renewing the boiling water, and the spirit in the lamp. The great advantage of making a continued, instead of a temporary application, at a determined temperature,

and without the intervention of the woollen cloths used in common fomentation, which irritate many wounds and ulcers, gives to the mode I have described for administering steam, the character of a *new remedy*, which it exhibits also in the more extended and more beneficial effects than those of common fomentation."

"The effects of steam, at a high but comfortable temperature, are gently stimulant, and extremely soothing to the feelings of the patient. When used immediately after the receipt of lacerated gunshot and punctured wounds, contusions of bones, fractures near joints, recent luxations, bruises, and strains of joints, and in all wounds accompanied with a peculiar overcoming pain, and a shock to the nervous system, it removes all pain, and consciousness of injury in a short time. After the pain and sense of injury have passed away, the steam may be continued at a lower temperature. Hot steam is remarkably successful in improving the condition of the indolent ulcer; and for inflammation of a more active character, no local application can compete with steam at a low temperature." (p. 176–7–8–9.)

The *water dressing* consists of two or three layers of lint, floated in the water before being folded, and covered with French oiled silk or India rubber, which should project beyond the margin of the lint, to prevent evaporation. It is to be changed two or three times a day, and is recommended as having not only better, but very different effects from poultices. It prevents or diminishes the secretion of pus, and under its use, granulations, which are rendered exhuberant by poultice, are either never formed, or exist in a slight degree. Very ancient authority is cited for the employment of water as a remedy for wounds and inflammation, but Dr. Macartney claims the credit of having introduced it to the attention of the profession in modern times. For this and other valuable practical suggestions, he is entitled to our thanks; and, as far as we know, the novelty of his views, as to the possibility of open wounds healing without inflammation, and without the medium of either coagulable lymph or granulation, cannot be disputed.—*Medical Examiner.*

Treatment of Varix.—E. H., aged 25, a lady's maid, was admitted into University College Hospital, June 21, under the care of Mr. Liston. About six years ago, during the time she was travelling, her left leg became frozen, and was afterwards suddenly exposed to considerable heat, by the limb being immersed in a mash-tub. In consequence of this treatment the veins of the leg became varicose, and the limb flexed at the knee-joint. This state of flexion continued for some time, when it was overcome by main force, and the limb was moved with freedom. She has had recourse to a variety of treatment under various surgeons without experiencing any relief. On her admission the veins of the leg were much enlarged, and there was a small ulcer on the inner ancle.

July 25, Mr. Liston passed eight needles under the principal varices, and applied twisted sutures. The ulcer soon healed, and the veins ceased to appear enlarged.

30th. Three of the needles were removed to-day; the other five on the 31st. Water-dressing applied.

August 4. The leg bandaged to-day. Went on well till the 16th, when she was discharged cured.—*London Lancet.* Bost. Jour.

Modification of the Appareil Immobile, for the treatment of Fractures. In No. 21, we gave a description by M. Velpeau, of the *appareil immobile*, of M. Seutin, for the treatment of fractures. From the London Medical Gazette

for August 11th, we take the following suggestions for the improvement of this apparatus, by Drs. Christophers and King. The objection to M. Seutin's apparatus is, that it does not expand and contract as the limb may swell or diminish with the development or subsidence of inflammation. Dr. King's first idea was to slit the apparatus, so that it might yield and return upon itself, according to the variation in the volume of the limb. It answered the purpose tolerably well, but was not sufficiently elastic to follow the limb in its changes of volume. At the suggestion of Dr. Christophers, a further improvement was now adopted, which consists of a simple and ingenious contrivance. "He proposed applying around the apparatus slit open, a certain number of elastic straps, made of India rubber, with buckles which admit of their being drawn to the requisite tightness. They are rather more than an inch wide, and rather longer than is necessary to encompass the limb. Four of these were applied, and converted the apparatus into a case sufficiently elastic to follow the changes in the volume of the limb, and yet of sufficient strength to afford the requisite support. Seutin's apparatus, thus modified, fulfils, as nearly as possible, and much better than any other, all the indications required; and it must be evident that it will be even a greater boon to the patient affected with a compound fracture than to one whose fracture is simple.

In case the limb undergoes a considerable diminution of volume, it will only be necessary to remove a longitudinal strip of the apparatus, instead of opening it by a longitudinal incision; and the strip should, of course, be removed, or the slit made along that side of the limb on which the nerves and vessels exist, and which can least bear pressure. We deem it not improbable, that the apparatus, thus modified, will be found useful in the treatment of many diseases, where it is essential to keep the parts motionless, without exercising an unyielding resistance, or a pressure in the least degree unequal. Dr. Christophers proposes to employ it for that troublesome disease—a varicose state of the veins." Examiner.

Treatment of Varicose Veins.—A writer in the London Medical Gazette, recommends the introduction of needles *with a cutting edge*, and a small, round silk ligature under the vessels. Commenting on the report of the Pennsylvania hospital operations for the cure of varicose veins, copied into the British Journals from the Examiner, he remarks that "the passing of a needle *through*, as well as under the vessels, before applying the ligature, does not seem to have any advantage over the latter mode, if the needle has a cutting edge, and the thread is round, small, and firmly applied." *Ibid.*

Nitrate of Strychnine for Paralysis. A child, three and a half years of age, born of healthy parents, remained apparently well until the end of April, 1834, when, without any apparent cause, it was seized with paralysis and convulsive movements of the upper and lower extremities, and paralysis of the tongue; the expression of the face was wild, and the child had been in this state fourteen days when the author was called in; he found no symptoms of fever or congestion about the head; the appetite was good; tongue clean; bowels natural. As the child had formerly passed some worms, anthelmintics were administered, and a few lumbrici expelled, but without any relief; on the contrary, the child became thinner every day. The following medicine was now given:

Nitrate of Strychnine, gr. i.; dissolve in
Alcohol, one drachm; add
Cinnamon water, two drachms. Three drops thrice a day.

The dose was gradually increased until the child took 36 drops, or 1-10th grain of strychnine in the course of the day.

After the lapse of a few days the patient's condition was much improved, the convulsive movements declined, and the power over the extremities was gradually recovered, and at the end of six weeks the child was completely cured.—*Lancet, from Sieb. Journal, Vol.* 17, *No.* 3. *Ibid.*

Case of Worms. The following rare and interesting case, recorded by Dr. Phineas Spalding, we extract from the Boston Journal, for January, 1839.

Mrs. S. after having been treated three years for dyspepsia, liver complaint, hysteria, spinal irritation and leucorrhœa, came under my care November 3rd, 1826, with the following symptoms. Great debility, barely able to walk about; emaciation; skin dry, with frequently a red spot upon one or both cheeks; countenance generally pale; upper lip considerably swollen; tongue slightly coated, edges red; gums soft and spongy; breath offensive; a slight cough, but no expectoration; appetite irregular, at times quite craving; bowels tumefied, generally costive; dejections bilious, at times clay colored, and the fæces occasionally were improperly digested.

There was painful menstruation, with a constant leucorrhœa, mostly of the milky character. Urine was high coloured, dark and scanty, at times large quantities and perfectly colorless. Pain in the head, back and limbs, alternately; spine tender its whole length, but very much so over the lower dorsal vertebra. Pulse feeble, very easily compressed, and not accelerated; nervous system very excitable, and a fixed apprehension that no remedies could be adapted to her case. She had been bled, cupped, blistered, physicked, had caustic issues to the spine, used female injections, and, in short, almost exhausted the materia medica for remedies, to no purpose.

After taking into consideration the whole history of the case, I came to the conclusion that worms might be the exciting cause of all her difficulties. Gave her one and a half ounces of the spirits of turpentine, followed the next day with a large dose of calomel and jalap, which brought away more than one hundred lumbrici, after which she took large doses of Carolina pink, followed by an infusion of senna and sulphate of magnesia, with occasionally the extract of butternut. In the course of three weeks about as many more were discharged, some of which were enormously large for this variety of worms. Her unpleasant symptoms immediately abated, and in a few weeks she resumed her ordinary labors, considering herself quite well, until March last, when she took a violent cold and had a severe cough, with some fever and much stricture upon the lungs, but no pain or soreness about the chest. She had had a leucorrhœa for some weeks, and the spine had become somewhat tender on pressure.

After being bled a few times, applying a blister to the chest, and other remedies commonly used in diseases of the lungs, her fever abated, and breathing became easy, but the cough continued unabated, and was but very little affected by what had been done. Presuming that worms might have a controlling influence, she resorted to her former course, took spirits of turpentine, calomel, Carolina pink and senna, as before, and in a few weeks discharged over one hundred very large lumbrici, after which her cough immediately abated, bowels became regular, leucorrhœa ceased, and she has since remained perfectly well.

There appears to be, in her constitution, a peculiar disposition for the generation of worms, and it is highly probable that they will collect again. In children this is a common occurrence; but in adults, worms in the alimenta-

ry canal are rare, and when once removed, the patient is generally ever after free from them.

This case throws some light upon what is commonly denominated spinal irritation. It has been considered, by some writers, and many good physicians, that this disease arises from irritation at the origin of the nerves of the spine, transmitted to the several organs to which they are distributed, exciting in them all the symptoms of idiopathic disease. However this may be, in certain instances, it is more than probable that in the great majority of cases the irritation is in the mucous membrane, transmitted by direct sympathy to the spinal marrow and origin of the nerves. The little success in the treatment of so many cases of neuralgia is probably owing to inattention to the digestive organs, and not discriminating between those cases which depend upon derangement of the nervous trunks and spinal marrow, and those which result from continuous sympathy, kept up in a great measure by irritating causes operating upon the delicate and susceptible tissue of the alimentary canal. We also see illustrated very clearly the intimate relation one portion of the mucous membrane has with the others. The cough, leucorrhœa, stranguary, irregular urine in quantity and quality, without doubt, arose from the irritation produced by the worms.

Irritation in the bowels not only manifests itself by deranging the organs directly affected, but frequently excites in parts far remote a sympathetic action, which is often mistaken for the primary disease. This is peculiarly the case in many cutaneous affections.

Boston, November 29, 1838.

Extensive Desquamation.—A patient for some time subject to attacks of fever, had, besides the common febrile symptoms upon the invasion of the disease, universal itching of the skin, and more especially at the joints; and the itching was succeeded by a number of little red spots, with a slight degree of swelling. Soon after that, his fingers became very stiff, hard and painful at their ends, and at the roots of his nails. In twenty-four hours, or thereabouts, the cuticle began to separate from the cutis, and in ten or 12 days this separation was general from head to foot, when he has many times turned the cuticle off from the wrists to the fingers' ends completely, like gloves; and in the same manner also to the ends of the toes; after which his nails shoot gradually from their roots, at first attended with exquisite pain, which abates as the separation of the cuticle advances, and the nails are generally thrown off by new ones in about six months. The cuticle rose in the palms of his hands and the soles of his feet like blisters, but contained no fluid under them; and when it came off, left the subjacent skin very sensible for a few days.

Sometimes upon catching cold before he has been quite free from feverish symptoms, he has had a second separation of the cuticle, but then so thin as to appear only like scurf; thus demonstrating the quick renewal of this part.—*London Med. Jour.* Medical Examiner.

Adulteration of Quinine. M. Pelletier, of Paris, states that if twenty drops of the pure and concentrated sulphuric acid be poured upon twenty grains of suspected quinine, the solution will present a most beautiful crimson colour, more or less intense, according to the quantity of salicine present. The adulteration of one part of salicine with ninety nine of quinine is, by these means, easily discovered.—*Lancet.* Ibid.

MEDICAL INTELLIGENCE.

Medical Prize Questions.

The questions for the Fisk Fund prize, for 1839, are:

First. The Medical Botany of Rhode Island.

Second. Erysipelas, its varieties and best mode of treatment.

Dissertations to be sent, free of expense, before the 1st day of May, to M. Parsons, M. D. Providence; or E. Fowler, M. D., Smithfield, Rhode Island.

The Boylston prize questions, for 1839, are:

First. The Pathology and Treatment of Rheumatism.

Second. What is Scrofula? And what its best mode of treatment? For 1840—

First. The Pathology and Treatment of Typhus and Typhoid Fever.

Second. The Pathology and Treatment of Medullary Sarcoma.

The prize of the Boylston Essays is a Gold Medal, or Fifty Dollars. Dissertations, for each year, are to be transmitted before the first Wednesday in April, to John C. Warren, M. D., Boston, Massachusetts.

The Medical Society of Augusta, Ga., offer a premium of Fifty Dollars, or its equivalent, for the best *approved* Essay on the Pathology and Treatment of Congestive Fever. The Essay is not to exceed forty octavo pages, when printed. Essays are to be sent, free of expense, to the Secretary of the Medical Society of Augusta, Ga., by the first day of May, 1839, with a motto, which must also be endorsed on a sealed letter, containing the name and address of the writer.

Wistar's Anatomy. The Boston Medical and Surgical Journal, of December 5th, 1838, says: "A new edition of this standard treatise is announced by Dr. Pancoast, of Philadelphia. The industry and perseverance of the profession of that city, are worthy of all praise. The old editions of Wistar's Anatomy are still valuable—and their accuracy and conciseness of detail are recommendations. Such revisions and additions as the present editor is qualified, by long experience, to give it, almost ensure an extensive sale. It is surprising that some one does not remodel that excellent old system of Anatomy by Andrew Fype, which in point of accuracy and minuteness, has never been surpassed by any demonstrator in any age. It is so nearly out of print, that few copies, if any, can be had at the book-stores. The Edinburgh edition, of 1815, in three volumes, octavo, is the last that has come to our notice."

The celebrated Broussais is no more! He expired on the morning of the 18th November last, at Vitry, his country seat, near Paris, at the age of sixty six years. The French paper from which this intelligence is derived, does not mention the malady to which he fell a victim; but we learn from other sources, that it was a disease of the rectum.

By the death of this celebrated man, the French Institute has lost one of its distinguished members—literature, one of its brilliant votaries—and the medical profession, an able teacher, and the founder of the "physiological doctrine of medicine."

From the Medical Examiner.

Death of Broussais. Professor Broussais died at one o'clock on Sunday morning, the 18th November, at his country seat of Vitry, a few miles from Paris.

His immediate decease was rather sudden, but he had long laboured under cancer of the rectum.

Broussais was born at St. Malo, in December, 1772, and was, therefore, sixty six years of age when he died. In 1792 he entered the army as a private soldier, but soon afterwards became an *officier de santé*. He subsequently served in a trading vessel during a period of six years, after which he went to Paris, and graduated as Doctor in Medicine. His thesis was on Hectic Fever, and was dedicated to Pinel.

Subsequently to this, he followed the campaigns in Holland, Germany, and Spain; and it is said to have been amid the fatigues of military service, that he conceived the plan of the work to which he owes his celebrity—the History of Chronic Phlegmasiæ. Of this, the fifth edition was published in Paris during the current year.

Broussais was Physician-in-Chief to the Val-de-Grace; Professor of General Pathology in the Ecole de Médecine; and a Commander of the Legion of Honour. His appointments brought him 10,000 fr. per annum.

He was attended in his last illness by M. Amussat, and when arrested by death, was actively engaged in a reply to the Memoir of M. Jouffroy against Phrenology, and in preparing a new edition of his work on Irritation and Insanity. There was a rumor, arising probably from the abruptness of his death, that he had been poisoned; but there seems to have been no ground for such a suspicion, and it appears to have speedily subsided.

M. Broussais was buried on the 21st of November, on which occasion all the usual display and parade which mark such scenes in Paris, were exhibited. A crowd of practitioners and pupils were assembled in the Rue d'Enfer; military medical officers, and the members of the Ecole, in their official dresses; deputations from the Academies of Sciences and of Medicine, were in attendance, to say nothing of a detachment of troops. This imposing *cortége* proceeded to the Val-de-Grace, MM. Larrey, Orfila, Boissy d'Anglas, and Droz, being the pall-bearers. Divine service having been performed in the chapel, the procession proceeded, the students having taken out the horses, and dragging the hearse all the way to Père-la-Chaise.

Discourses were pronounced over the grave by MM. Droz and Arago, in the name of the Institute; M. Larrey (*fils*) on the part of the military medical officers; and M. Bouillend on that of the Ecole de Médicine.

The officers at the Val-de-Grace propose to go into mourning for a month, as a testimony of their affectionate respect for the deceased.

A subscription has been opened in Paris, for the purpose of erecting a monument to the deceased. *Lon. Med. Gaz. Dec.* 1, 1838.

The following interesting and correct sketch of the life, character, fortune and death of M. Broussais, we extract from the editorial department of the Medical Examiner—

Dr. Broussais, the founder of the Physiological Doctrine of Medicine, died at Paris on the 17th of November, of a cancerous disease of the rectum.

The labours of Broussais have left so deep an impression upon the science of medicine, that we cannot pass over this death in silence. Like all other founders of exclusive systems, he could scarcely be appreciated during his life. On the one hand his zealous admirers, and on the other his opponents, were disposed to exalt or to depreciate his medical reputation, according to the partial standard by which they were governed. The physiological doctrine of disease had already passed through its complete revolution before the death of Broussais. At first earnestly opposed, it soon became the system, which, in France, attracted the most zealous, if not the most numerous followers,—and, for a while, it seemed destined to become the predominant system of medicine. The physiological doctrine, during its most brilliant period, was not limited to France, nor, indeed, to Europe;—it seemed to possess a power of universal application, and was received with enthusiasm in many countries of the American continent, especially those in which the violent febrile diseases of tropical climates are most destructive.

During the rapid progress of the physiological doctrine, its author was earnestly and constantly engaged in an incessant polemical warfare with its opponents. For him, there was no medium; the physiological doctrine of medicine solved all difficulties, simplified therapeutics, and, with a few formulæ, enabled the young and inexperienced physician to combat disease with more success than the veteran practioner, who had toiled through a long life of patient observation. The high talents, and energetic, impetuous character of Broussais, sustained him in this endless controversy, and placed him and his school in an attitude of hostility to established opinions, which soon gained him numerous disciples. Of these, some adhered to his doctrine from love of its apparent simplicity,—others joined the physiological school, from that fondness for distinction which is most easily gratified by becoming a proselyte to the opinions which are most novel, and therefore attractive.

The onward progress of the physiological school continued as long as its followers were freely examining one after another the medical opinions which had been based upon the accumulated experience of centuries, and in substituting for them the new combinations of irritation or inflammation. But a single leading idea is soon exhausted—and, however much the nomenclature of diseases might be varied by referring constantly to the organ which is chiefly affected, it became very evident that in all cases there was some modification of inflammatory action, which was to be removed by the same system of therapeutics. The medical profession soon began to tire of these continual repetitions, and very soon discovered that, with some trivial exceptions, all works on the physiological doctrine consisted only of an incessant reiteration of the same theme, with a few unimportant variations.

An epoch in the history of the physiological school occurred, when Broussais became Professor of the Faculty of Medicine of Paris. A new chair was founded for him at the revolution of July, that of General Pathology and Therapeutics. This appointment was a sort of acknowledgment of the standing of the physiological school, and as it were, a public recognition of his system. There were never more than two or three professors of the School of Medicine of Paris who entirely adopted the opinions of Broussais; but his admission into the faculty, was, in itself, a signal triumph.

Much to the surprise of every one, the physiological system declined with increased rapidity from that moment;—the endless repetitions of the new professor wearied, while his fondness for sarcasm, and, at times, for gross personalities, disgusted his audience; his class became less and less numer-

ous, and, for some years, was one of the smallest at the School of Medicine. About the same time that Broussais was appointed professor, the reaction against his system became more decided ;—a number of observing men had been studying disease with the aid of pathological anatomy and the new means of investigation which Laennec had discovered ; the results of their inquiries were published, and proved that Broussais had been carried vastly beyond the deductions which could fairly be drawn from observation. It soon became clear to those who were most attached to the physiological doctrine, that the nature of a disease was not always explained by calling it an irritation or inflammation, and that leeches and demulcents could not replace the whole materia medica. As a system, the physiological doctrine can scarcely be said to exist; very few of these ultra adherents can now be found, except amongst the French army surgeons, and in some parts of the tropical regions of America. That its existence as a system should cease, was natural enough; a similar fate has befallen others, which, for a time, have had equal notoriety with the doctrines of Broussais.

We must not, however, examine the opinions of Broussais as a system ; however defective they may be as a whole, in many respects they have produced a most salutary reform in medicine. Had Broussais contented himself with the publication of his works on "Chronic Inflammation," and the "Examination of Medical Doctrines," the good which he has done, would have been unmixed with evil, and it is to these earlier works that we must look for the best evidence of the genius of the author. His later productions are much more feeble and less interesting.

We have already alluded to the indirect good which resulted from the works of Broussais. Many experfenced and observing physicians could not adopt the opinions of Broussais, while they were unable to oppose them, except by pursuing a new course of observation on the diseases which he had treated of most largely. We are, therefore, in some measure indebted to Broussais, for the admirable works of Louis, Chomel, and Andral, which furnish the only satisfactory reply to his exaggerated notions. It would, however, be doing great injustice to his memory, to pass over the positive and direct good which has resulted from his writings. He has enforced the examination of suffering organs in febrile diseases; has explained many of their sympathies; has shown that by perseverance in a mild antiphlogistic treatment many chronic affections will disappear—and, above all, has prevented the abuse of irritating remedies in inflammatory diseases. The results are most important, and will be finally received amongst the admitted maxims of medicine, but they are not the only good which Broussais has done; a vast number of diseases have become better known through his labours, and the novel points of view from which he has examined them. He has rarely studied them with an unbiassed mind, but while we make the necessary allowance for his peculiar views, we can in every case gather a vast amount of practical knowledge, which is rendered the more impressive from the earnest, energetic language in which it is clothed.

SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] MARCH, 1839. [No. 6.

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

An Essay read before the Medical Society of Augusta, January 10th, 1839; on the subject—Are there any signs or symptoms by which Worms can be inferred certainly to exist in the alimentary canal; and if there be, what are they? With cases. By PAUL F. EVE, M. D. Professor in the Medical College of Georgia.

IN examining this question, selected at the last meeting of the Society, it is proposed to examine first, what is meant by signs and symptoms; and, secondly, to consider all those produced by worms in the alimentary canal, in order to decide if there are any pathognomonic or characteristic of their presence.

First, then, what are signs and symptoms of disease?

Until recently, these two terms were considered synonymous in pathology. But, omne symptoma signum est, sed omne signum non est symptoma—every symptom is a sign, but every sign is not a symptom, is now an axiom of the profession. By the symptoms of disease are meant the phenomena or effects produced by it, and which strike the senses either of patients or physicians. They are the expressions of the suffering organs—the lights by which diseases are revealed. They are not the morbid action itself; neither can we, by the symptoms alone, de-

termine the true nature and character of a disease. But, by a knowledge of anatomy, physiology, and pathology, the physician converts the symptoms to signs of diseases. A pain in the side for instance, is a symptom of pleurisy, equally manifested to patient and physician; but the latter alone from his acquaintance with the structure of the parts affected, &c., can deduce from it a sign of this affection.

Symptoms of diseases, have very properly, been divided into the essential, accidental, and common. The essential symptoms are those which are constantly present, and determine the characters of a certain affection. The accidental, on the contrary, are those symptoms which are adventitious, and may depend upon some pathological complication or some modification of the vital forces. Lastly, the common symptoms are those belonging to a number of diseases, and are, therefore, of little value in diagnosis.

The signs of disease are, the conclusions which the physician deduces from the symptoms, respecting the past, present, and future condition of a patient. They are the legitimate results of the operations of a mind enlightened on the subject of medicine, when the symptoms of a disease have been presented to it.

The division of signs is into commemorative, diagnostic and prognostic. The commemorative signs include all the circumstances anterior to a disease, its causes, its development, &c., and is important—indeed sometimes essential to its diagnosis and prognosis. The diagnostic are those signs which ascertain the actual state of the disease and condition of the patient. These signs have, moreover, been sub-divided into the pathognomonic, the accidental, and common. The pathognomonic signs have such an intimate relationship to the disease itself, that they cannot be separated from it, and without their presence the disease is not known to exist. They are the essential and characteristic signs of disease. The accidental and common sub-divisions of the diagnostic signs, are already explained by the use of these terms in defining the symptoms of disease—they are, in fact, expressive of themselves. The last division of the signs in pathology, are those called prognostic, which enable us to predict the issue of the disease, as well as all future changes in its progress.

Having now defined what are the symptoms and signs of disease, we are prepared to consider the second division of our sub-

ject; which is, what are the signs and symptoms of worms in the alimentary canal, and are any of them pathognomonic of their existence?

The symptoms and signs of worms, produced by their presence in the alimentary canal, may be properly grouped into two classes; first, those which depend upon a derangement of the digestive organs; and, secondly, those of other organs sympathetically affected. It will be conceded by every reflecting mind, that if it be shown that none of the primary symptoms or signs of worms are pathognomonic; a fortiori, neither can any of the secondary be characteristic of their existence. With this understanding then, we hope to avoid an enumeration of the second class or sympathetic affections of worms.

In enumerating the principal derangements produced by worms in the alimentary canal, dependant upon irritation of the gastro-intestinal organs, we shall proceed from the superficial symptoms, to those that arise from the condition of deep seated parts, and are consequently more obscure. The countenance is pale, or of a leaden color; there are occasional flushes; the pupils are dilated, and there is a blueish color under the lower eye lids. There exists great itching of the nostrils, but more especially is this intolerable in the anus, in cases of ascarides. The upper lip is tumid; the saliva is increased; the breath is offensive; the tongue is foul; and there is grinding or gritting of the teeth during sleep. The appetite is exceedingly variable, sometimes there is a disgust for all food; but more commonly the hunger is excessive, particularly when the lumbricoides or tæniæ exist; and though the patient may eat heartily, still he becomes thinner. The abdomen is swelled, there is nausea, sometimes vomiting, pains in the bowels, a sensation of something alive in the insides, borborigmy, colic, tenesmus, diarrhœa alternating with constipation, and the stools are slimy, ropy, broken up into fragments, offensive in odor, with a want of bilious admixture. But the most certain of all the signs of worms is, the passage from the intestines of a portion of one, or of one or more. And this is the only symptom which authors unanimously agree, can at all be considered pathognomonic of the existence of worms in the alimentary canal.

It is well known, that worms may remain for years in the intestines, without producing unpleasant symptoms. Dr. Heber-

den, and Dr. Good, mention cases, wherein the lumbricoides and ascarides have thus existed for thirty years. Dr. Parr even believed they formed a part of a healthy constitution, producing only occasionally, as he termed it, an inconvenience. And Dr. Rush absolutely taught that worms acted in the intestines the part of scavengers, and that they were necessary to preserve the health of children.

Although few, at the present day, will subscribe to the opinions of Drs. Parr or Rush, yet none will deny the facts, that worms not unfrequently remain perfectly inoxious for a length of time in the intestines, and that they are occasionally passed from the healthiest children.

If we now analyse in succession each and every symptom enumerated by authors, produced by worms in the alimentary canal, we shall soon be satisfied that no one can be converted to a pathognomonic sign of their presence. Without consuming time by noticing others, let us even take up that one so generally admitted as the most certain of all, and which, in fact, is of more importance in the diagnosis of worms, than all others put together, whether local or sympathetic, *their occasional passage from the alimentary canal;* and what does even this symptom amount to? Why, certainly, nothing more than that worms *did exist,* and not that they are actually existing in the intestines. Assuredly, if the very same symptoms continue that obtained before their expulsion, then undoubtedly the probability of more being in the alimentary canal, is greatly increased. But who will pretend to admit, that this probability, great as it may be, is ever converted or amounts to a certainty? Who can determine but that the last worm discharged, is not in reality all that were in the bowels? We do contend, that all that can positively be indicated by a rigid and precise signification of this prominent symptom of worms, "their occasional expulsion either by the mouth or per anum," is, that they once existed in the intestines. And who will not admit that all the symptoms of lumbricoides, ascarides, &c. may be present in a given case, excepting the one we are now considering, and yet in reality none exist? Certainly there is a period in every case of worms successfully treated, when their passage from the bowels, *even this very symptom,* is not a *certain sign* that there are more; and this is the discharge of the last one, which, could we ascertain, would

be *proof positive*, that there were no more in the intestines. So much then for this supposed most certain sign of worms in the alimentary canal.

As for the other symptoms, who need be told, that itching of the nostrils and anus, gritting of the teeth, foul tongue and fœtid breath, variable appetite, pains and uneasiness in the bowels, colic, slimy stool, &c. &c. are produced by other causes, than by the presence of worms in the intestines? Or, what would be thought of him, who would seriously entertain the belief, that the sympathetic symptoms occasionally observed in verminous diseases, such as troubled urine, dry cough, cold surface, headache, and a whole host of nervous affections, were the true characteristic signs of these little animals?

Have we then no essential symptom or symptoms of worms, when they exist in the alimentary canal? Certainly not. There is not one that is constant and invariably present. Worms we have seen often exist without exciting one unnatural phenomenon—without producing one symptom, be it essential, common, or accidental. Neither are the symptoms uniform or constant when they do occur. Even the one considered the most certain, is by no means essential to their existence—Many patients die with worms without ever having evacuated even a single one.

Seeing then that we have no symptoms by which worms can be inferred certainly to exist in the alimentary canal, are there any signs from which we can deduce this fact? We have already examined that sign, and determined its true import, which has the most pretensions to be regarded the pathognomonic of the diagnostic signs of these parasites. Of the commemorative, diagnostic, and prognostic signs of worms, this is the only one which has any claims to be considered characteristic of their existence.

Dr. Wm. Stokes, the great pathologist of Dublin, says, it is a singular fact, that we have not one single pathognomonic sign of the existence of intestinal worms, except the circumstance of their being occasionally passed by stool or vomiting; almost all their symptoms are referable to irritation of the gastro-intestinal surface, and its sympathetic relations.

After the enumeration of the symptoms of worms by Professor Chapman, he remarks, taken alone, no one of the preceding circumstances will be conclusive of their existence. And in a note, quoting an intelligent writer in his Therapeutics, it is said,

the ambiguity of every symptom ascribed to worms, except that of voiding them, is well known.

The lamented Eberle observed, that none of the symptoms are certain indications of the existence of worms in the bowels—the only certain indication being the appearance of them in the evacuations from the bowels or stomach.

Brera, who has written one of the best works on verminous diseases, says, the most sure sign in the local or sympathetic affections arising from worms, is their expulsion from the mouth, or per anum.

In the article *Vers*, of the Dictionaire des Sciences Médicales, by Mérat, 57th volume, it is said that the only indubitable phenomenon which indicates worms, is the discharge of a portion, or of some of these animals from the body.

In the seventh volume of the Dictionaire de Médicine et de Chirurgie, the celebrated anatomist, Cruveilhier, writes, among the symptoms of worms, some are located in the alimentary canal, others are sympathetical; all are vague—taken separately, they declare nothing; grouped together, they form an assemblage of probabilities, which never conduct to certainty. This can only be demonstrated by the fact of their spontaneous or provoked expulsion either alive or half putrefied.

If we are right in our estimate of the real value of the indication which the passage of one or more worms affords, viz: that they did exist, and not that they actually do, and that it never offers a certain and positive sign of their existence; and if this be the only one, as we have seen by the language quoted of some of the most celebrated helminthologists, that has any claims to be considered a pathognomonic sign, then are we safe in the conclusion, that there is none such.

Nor is it a small matter to decide the question under consideration. If there be no sign or symptom by which worms can be inferred certainly to exist in the alimentary canal, it ought to be admitted and publicly confessed, that greater caution might be exercised in the diagnosis, but more especially in the treatment of diseases reputed verminous. What serious errors have not been committed in practice, on account of the obscurity in determining positively the existence of intestinal worms? What practitioner has not the candor to acknowledge having been deceived on this subject? Who has not acted upon the suspicion

of worms producing a certain group of symptoms, when in reality it was afterwards made evident that none ever existed; and on the contrary, who has not occasionally been baffled in the treatment of some sympathetical or nervous affection, the cause of which has accidentally been revealed by the evacuation of a lumbricoides, a portion of tænia, &c. How many diseases have been aggravated—how many inflammations excited—and how much distress been produced, by the habitual, indiscriminate, and semi-annual drugging of children with anthelmintics, where worms never have existed? Or, who is not prepared even to admit, that where every symptom of worms have obtained, still this class of remedial agents has been most grossly abused? Hence, the importance of a correct answer to the question, are there any signs or symptoms by which worms can be inferred certainly to exist in the alimentary canal, and if there be, what are they?

Worms are said to occur in persons of feeble constitution, or in those of ill health. It is known, too, that the lumbricoides, or common round worm, and the ascarides, or thread worm, are found existing almost exclusively in children, while the tænia or tape worm, inhabits the small intestines of the adult.

With respect to the diagnosis of particular worms, it may be remarked, that there are a few special symptoms, by which we may be assisted in distinguishing one species from another. The general symptoms already described, together with vomitings, when they exist in the stomach, are those belonging to the lumbricoides. In fact, there is rather a want of peculiarity in the phenomena produced by these worms. They occasionally pass from the intestines, per anum, and are those most easy to be removed. They are most common in children from two to seven years of age, and occasionally are found in adults.

The ascarides are the easiest recognized. They inhabit the lower part of the rectum, often producing the most violent itching in the anus, and are sometimes seen by inspecting those parts. Were the speculum ani, as applicable to infants as to the adult, we might have in it the means of arriving at a pathognomonic sign of their existence. Their discovery, by stretching open the sphincter ani, is, undoubtedly, the nearest approach to a certain and positive symptom of their presence.

The tænia, we may say, is alone recognized by the passage of a portion of it, and by its existence in the adult almost exclu-

sively. In the last species of worms found in the human body, the tricocephalus, we have nothing peculiar in their symptoms—they are decidedly the least frequent of all.

Our conclusion then, from a careful review of all the symptoms and signs of worms, and from a rigid scrutiny into the value of each in diagnosis, is, *that there is not one which can be considered pathognomonic of their existence in the alimentary canal.*

Case first, occurred in the practice of Dr. Edward A. Eve, of this County, and is interesting, from the fact, that worms (lumbricoides,) produced death in an adult, in a few hours, probably by exciting peritonitis.

"Agreeably to your request, I undertake to give you the history of a case, which has very recently come under my observation, in which death was caused by worms, in an adult.

On the 18th December, 1838, I was called to see a negro woman, about forty five years of age, servant of Mr. Robert Greenwood, of this County. On visiting this patient, I found her affected with great jactitation, and apparently in great agony, complaining of severe and sharp pain about the umbilical region. Upon examination, I found her pulse small and feeble, though not unusually frequent, tongue deeply coated, temperature of the extremities low, and such other symptoms present, as indicate concentrated irritation about the stomach and bowels—flatulence, and many of the symptoms which characterise colic, being present. I found it extremely difficult to localize the disease; and upon pushing my inquiries further, into the previous history of the patient, I was informed, that she had been in the habit of eating dirt, and that, not very long since, she had passed several worms.

Treatment. To answer the two-fold indication of removing the worms, which I supposed existed from the concurrence of the symptoms and previous history of the case, and of allaying intestinal irritation, I prescribed calomel, with an occasional dose of morphine, to be followed with oil and turpentine. The following day, having seen the patient first at midnight, a wine-glass full of the decoction of Spigelia was taken every second hour during the day; from this combined course, about two hundred well grown lumbricoides were expelled. On my visit in the evening, the pain and symptoms of severe irritation having

subsided, together with the expulsion of so great a quantity of worms, which were supposed to be the origin of the disease, I left the patient, directing a mild course of treatment, with gentle nourishment, calculated to expel the remaining worms, and restore the tone of the alimentary canal.

On visiting my patient, to whom I was summoned in great haste the next morning, I found her decidedly in a moribund condition—extremities cold, pulseless, intellect clear, articulation not materially impaired, muscular strength sufficient to raise or turn in bed; she complained of severe pain, evacuated about six or eight worms, was drawn into the posture of a patient affected with opisthotonos, and died in about ten minutes from the time I entered the room.

Post mortem examination. About fifty six hours after death, the time of inspection in this case, the appearance of the cadaver was such, as is generally designated, very natural; the features placid, and but little altered in their expression; emaciation inconsiderable, as would be supposed from the short duration of the attack. My time being limited, the body having been brought, but a short time before night, to the grave, where I was to attend for the purpose of making the examination, I commenced by an incision sufficient to allow me to detach the stomach from the œsophagus and duodenum. After which, I removed it to a convenient place for examination, and emptying it of its contents, I discovered, not only intense inflammation, but effused blood adhering to its internal surface; and upon more particular inspection, after carefully washing out the organ, I found, in several places, severe lesions, its parietes being nearly perforated. Rapidly approaching darkness compelled me to abandon any further investigation; which I regret, more especially, since you have desired a report of the case. And I fear now, from the imperfect register of symptoms I am forced to give, from the late period at which I was called to this case, it will be very little available, in determining the certainty or uncertainty of diagnosis in verminous affections; for had it not been for the light thrown upon the subject, by the previous history of the patient, I would have been left in great incertitude as to the true nature of the case. It will, however, go to prove, that worms can exist in great abundance in the adult, and that

they are not harmless inmates of the alimentary canal, as some have absurdly supposed them to be."

Case second. This also was treated by another physician; and I regret much the impossibility to procure further particulars relative to it.

In this case, a negro girl, about thirteen years old, it was remarked, both by physician and attendants, that the worms were distinctly felt through the abdominal parietes, forming distinct tumours, and their motion was distinguished from that of the intestines. Near nine hundred lumbricoides were discharged, and the patient entirely recovered.

This case is interesting, as it offers a new symptom and sign in the diagnosis of worms, and this circumstance alone has induced me to present it to the professional public.

ARTICLE II.

An Essay on the following question, propounded by the Medical Society of Augusta, "What is the most common cause of abortions?" Read before the Society, at the Session of the 16th January, 1839. By M. Antony, M. D. *Professor of Obstetrics and Diseases of Women and Infants, in the Medical College of Georgia.*

Under the head of his treatment, M. Velpeau very correctly remarks, that

"The practitioner should turn his attention to the prevention of miscarriages; for when it has once *commenced*, all he has to do is, to hasten its termination." This is, however, evidently in allusion to the term *abortion*, being considered to mean only the actual passing of the fœtus from the uterus. With this definition in view, this precept of Velpeau is perfectly correct; for hardly can a greater outrage on common sense—to say nothing about reason—be committed, than to attempt to stop a miscarriage after the ovum has commenced its passage outward. But we consider, and we presume all will concede the point, that.

according to the good etymology of the term, the abortion is, in effect, as complete, the moment the fœtus is deprived of that life which is necessary for its ultimate vital existence, as it is after its actual expulsion through the vulvo-uterine passage; for its expulsion is a mere consequence of that action which first separatted it.* But there is a key to usefulness in these cases, on which, the profession seem not to have taken hold; but which opens the way to more usefulness than all anodynes, depletions, ex-

* This suggests an important practical inquiry, in order to the correct management of a case, in which the treatment must alter to extreme opposites, by the differing stages of the disease. When the abortion has commenced, that is to say, when the fœtus has commenced passing away from the uterus, we should hasten its termination. In view of this alone being abortion, we would feel bound to reply to the inquiry of the Society by saying, what perhaps few, if any, would deny, that the most common—perhaps universal *immediate* or *proximate* cause of abortion is, the expulsive action of the uterus. But to prevent confusion from the endless quibble about words, we have chosen to consider the uterine contractions, as well as all evidences of excitement or action concerned in, or tending to this result, as belonging to it; as, for example, irritation or inflammation of the uterus; because these are the first changes of animal actions, in the chain of phenomena which constitute abortion. They, therefore, as properly constitute a part of the business of miscarriage, as do the early phenomena of labor at term, of which uterine action is the chief, constitute the first stage of labor. For practical purposes, it appears to us therefore, that whilst it is consistent with the etymology of the term, abortion should be divided into two *stages*. That to which Velpeau seems to allude, should constitute the second. This stage is irremediable, and therefore should be made the best of, by completing it. The first stage should include all the phenomena previous to the actual separation of the ovum from the uterus, and its begining passage off. These are, principally, irritation or inflammation, which are the results of physical causes on the excitability of the parts concerned. These are remediable, and therefore demand treatment extremely opposed to that of the second. How important, therefore, is it, to determine in which of these two stages the present case is, before adopting the first item of treatment. The duty is therefore imperious, and the neglect of it criminal, to determine the stage. The touch alone can determine this generally, and with certainty, from the time the ovum enters the os uteri. Previous to this, we have no absolute means of determining, although the placenta may be detached; and we must therefore, include every thing previous to this entrance into the os uteri, in the first stage, and treat it accordingly, until the evidence of the second is manifest. We have, on a former occasion, alluded to the indispensable duty of touching early in abortions, when their progress is not otherwise plainly evinced.

pectations, &c. &c. which have been brought into use and most relied on. This key is found in the due and proper consideration of the etiological department of this subject. In enquiring for the most common cause of abortions, we presume those animal actions which themselves constitute abortion, are not alluded to; but such physical causes as tend to excite those animal actions concerned in accomplishing the loss of the offspring. It is presumed that the object of the inquiry is, as it should be, practical interest. It cannot therefore be considered as searching for things as causes, which are beyond the possible power of remedial means. Whilst therefore, it is true that, when abortion commences, in the sense in which Velpeau seems to mean, that is to say, when the ovum is actually separated from the uterine walls, and on its passage outward, no means can possibly ever secure the vitality and prosperity of the offspring, still the next step of retrogression, or that stage in which the placental portion of the ovum, that part through which the fœtus derives its principal support, has not entirely separated, and no advance of the ovum made, outward; there is a begining hope in the possible power of those means which tend to remove causes and correct their effects. This hope, having more reason for its sustentation, the further back we find the case in the first stage, increases according to the less advancement of those circumstances which tend to destroy hope. For, notwithstanding when the ovum is being actually separated to a considerable extent from its attachment to the uterus—even at that part of it through which the fœtus derives its chief support, we mean the placenta, still, in some of these cases we have succeeded in arresting this event, by enforcing a practice, at once calculated to prevent the combined operation of causes, and to correct the effects already produced by their action. The only real adhesions of the placenta to the uterus (in the proper sense of that term,) we have had good reason to believe were indebted for their existence, to a partial separation of the placenta from the uterus being followed, in the recovery, by a cicatrix of more strength and firmness than the ordinary attachment—a strength which it were beyond the powers of uterine contraction to lacerate. These adhesions we consider evidence of the partial separation of the placenta. The less this detachment of the placenta, (and the hæmorrhage is our best index to its extent,) the better is the

prospect of preventing the completion of abortion, or the *final* failure of the offspring. In the previous phenomena of the first stage of abortion, however, that is to say, those of uterine irritation, &c. the chance of success is still better, better yet is our chance of prevention, before the begining of those actions which tend to effect abortion, and which are the effects of physical causes, when we *know* those causes which are most common, and the means of preventing their physical action on the uterus. Thus we have thought proper to give this view of abortions, before entering on the consideration of its "most common cause." We will now return to the consideration of the causes of abortion.

Much has been said by authors and teachers, on the subject of the causes of abortion, and many notions have been adopted and systematized, from the previous opinions of men, without due consideration of their natures and modes of operation. Enforced by such high names as Desormeaux, Lachapelle, Dugés, Boivin, &c., they have been received, and divided into *efficient* and *determining* causes. The efficient causes are said to be, contractions of the womb; the determining causes have been divided into

1*st. Predisposing*, under which are mentioned certain general states of the system, as plethora, abundant and regular menstruation, great irritability, nervousness, lymphatic, of fair complexion,* weakly, sickly, who have large eyes and bluish sclerotica, persons affected with syphilis, scurvy, rickets, badly formed pelvis, organic lesions, any chronic disease, anthritic, dropsical, cancerous, badly nourished, compression of belly by lacing or other tight cloathes; marshy, unhealthy countries; certain atmospheric constitutions, and many others of similar import.

2nd. Other causes are considered *occasional*, &c. Any of these may be found grouped up with the *phenomena of abortion*, as indeed are some which are classed with predisposing, and all considered *causes*.

We will not pretend to say there are not predisposing, as well as exciting causes; but instead of going the whole round of the particulars of each, let us ask—not what are these causes? and

* Velpeau.

content ourselves here, but what are they, and how do they act as successful ones, contributing to this fearful result? Very rarely, these operate primarily and mainly on the fœtus, causing its death. They may, and do operate on the mother in predisposing her with greater susceptibility of the action of exciting causes. But it is still more frequently the case, that abortion is caused by an occasional cause, which acts through the medium of the uterine irritation, inflammation, or topical congestion which it causes, and which proves efficient, in the end, and sufficient, under any circumstances, through this medium, to accomplish abortion by its physical action on the natural and ordinary susceptibilities of the system.

It is not our purpose, in this enquiry, to determine every thing which may possibly, under some circumstances, contribute to abortion; but with views to greater practical utility, as we have found in our intercourse with such cases, to enquire into the immediate, or efficient cause of abortions, and those causes, whereof the efficient cause is the effect; for we can contemplate no cause, without beholding it somewhere in the concatenation of cause and effect—each link in this chain of concatenation being, in turn, cause, and in turn again, effect. The efficient cause of abortion, according to Velpeau's definition of the term, which we consider implied in the precept quoted at the begining of this essay; or the proximate, or that which immediately effects the expulsion of the ovum, is uterine expulsive action. But considering this action a part of the disease, which, according to our definition we consider abortion, we look for the *efficient cause*, to the previous link in the chain of phenomena, or the physical phenomenon proximate to the first phenomenon in the act, so to speak, of abortion. Here, by a general division of the chain of phenomena, we would separate noxious cause from morbid effects. That cause, which is the next link in the chain of events previous to that of the action of the uterus, which commences and completes the separation, expulsion, and destruction of the ovum, is, indeed, the proximate. Its first morbid effect we observe in that excitement and uterine action, by which the ovum is separated and expelled from the uterine cavity; for it's expulsion is a mere consequence of that action which first separated it; and all must agree that the abortion is, in effect, as complete, according to the good etymology of the term, the moment the child is deprived

of that life, which, as a parasite, it derives from its mother, and which is necessary for its ultimate vital existence, as it is after its actual expulsion through the vulvo-uterine passage. But in this expulsory action we behold the effect of irritation, created in the uterine fibres in some way, and by some particular cause or causes. Starting at this point, let us reason from effect to cause, and trace back the chain of phenomena from the final effect, throughout its extent; and, in doing so, notice, as we pass, for a *competent* and *present* cause, or one which has been sufficiently present for effectual action in the production of its appropriate result. It is an axiom that *effect* declares *causation.* When we trace back the chain of phenomena from the ultimate result, abortion, through the expulsory efforts of the uterus, to the uterine irritation, or that condition of it which next preceded the expulsory action; if we enquire, as we must do, what has occurred whereby the present irritation has been effected? we may be told, nothing—that no accident has happened to which it may be attributed. But, as this is inconsistent, in fact, with sound philosophy, we must not receive it as truth, and drop the further enquiry. We know, by the above axiom, that every event must have its due and appropriate causation; therefore, the want of recognition of it does not establish the fact that it does not, or did not exist; but that our investigation has been too imperfect for its detection—that it is still the fact that it does or did exist, and that it is our duty to ascertain that particular truth.

Now the key to which we alluded in the begining of this inquiry is, that in all such cases as these, which are generally met with in practice, (for others, though their occurrence is within the bounds of possibility, are so rare, that, for practical purposes, they need scarcely to be attended to,) there is an internal, hidden cause, the very investigation of which is of so delicate a nature, as generally to elude the detection of the accoucheur and of the patient; because she can only know its existence by the phenomena it produces; and on these she looks, as *symptoms of miscarriage*, instead of *evidences* of the *action of this cause.* But the unprejudiced, candid, and faithful accoucheur, who understands well the anatomy and physiology of the parts concerned, will find, on observing these phenomena or symptoms, abundant reason to know the cause of these, its effects. Soreness, pain, or bearing-down distress in the hypogastrium, pain or tenderness

in one or both groins or iliac fossæ; more or less strangury or other forms of vesical disturbance; or perhaps some ill besetting the rectum will be discovered. He then remarks that it is not until towards the fourth month, that the uterus ascends above the excavation of the pelvis, and that, after its ascent, and that increase of growth which is sufficient to prevent its easy descent again into the cavity of the pelvis, it may still, with its increased weight, press with unwonted force on the brain or superior strait.

Excluding then, all other competent causes by the deficiency of evidence of their existence, and contemplating the physical tendency of this, on the anatomy and physiology of the parts concerned, he finds some, or all of the ordinary phenomena which, from the very nature of its operation, he can now perceive, arise from a *descensus uteri*, a circumstance which he knows to exist, to some extent, with all females in the early months of utero-gestation. It is true that this is often harmless, and if withstood for a time, will pass off, without leaving any ill consequences in its train; and thus it occurs, that most females pass on, through the whole period of utero-gestation, without misfortune. But with others it is different. When its greatest transverse diameter happens to be below the superior strait, which is not very unfrequently the case, especially when symptoms of descensus have existed previous to the pregnancy, the uterus continues to enlarge with the growth of the ovum, until it impacts itself more or less tightly within that strait. Hence arises irritation in the surrounding parts—the neck of the bladder, the rectum, the round ligaments, the alæ uteri or lateral folds of the peritoneum, the short ligaments, &c. &c.; and not unfrequently, symptoms of compression of the nerves which traverse the excavation of the pelvis, &c.

But this is rather too promiscuous an assemblage of these phenomena: it includes those of different bearings, as to their relation to *abortion;* for example, strangury, tenesmus, or dysenteric feelings in the lower bowels, nervous and vascular troubles in the lower extremities—these may and often do exist for a length of time, without other misfortune than the distress they afford, and are, therefore, to be regarded accordingly, so far as we are concerned for the immediate relief of the present distres-

ses.* But at the same time we are to consider them as plainly telling us what manner of violence is being done; and that a cause is in operation which repeated observation, as well as reason assures us is liable, and constantly tends to produce an undue excitement in the uterine substance; for action and re-action are equal and contrary, and therefore is the uterus equally compressed with the same violence as it compresses the adjacent parts. But when the broad, the round and the short ligaments evince irritation, which they early do, it is to be remembered that it is no difficult matter for the irritation of these to extend, by continuity of vessels and other tissues, to the substance of the uterus. Again, the lateral parts of the uterus may, and generally will suffer irritation by the re-action on them afforded by the sharp brim of the pelvis at the abdominal strait, which is known by the name of "*linea ilio-pectinea.*" In short, various influences are in operation, whereby the contractile organization of the uterus is liable to become irritated into expulsory effort.

The uterus is an organ possessing no small share of irritability. This should be closely scrutinized, and its excitement prevented. There is no harm, in view of abortion, so long as the expulsory effort remains unproduced; but the instant it makes its beginning, its immediate counteraction is necessary; and this is now easily done by removing the cause and correcting its effects. Here, it should be observed, that evidence of the truth of causation is derived from effects, or reasoning from effect to cause; for cause is that, which, being removed, the next phenomena which we call effects, cease; and experience constantly certifies us of the truth in this way. But we may be told that the woman had a fall, or that she underwent sudden and violent effort, &c. What, we enquire, are the physical agencies or powers we are to attribute to these violences? Mere concussion, unless it be extremely violent, is not, by any means calculated to separate the membranes, or the placental part of the ovum from its attachment within the uterus—"no more" says Velpeau, "than such things would tend to separate one bladder full of water from another which closely invested it." We have seen a young

* It is to be remembered however that, very rarely, vesico-vaginal fistulæ follow strangury, from this cause; and that, not unfrequently, recto-uterine abscesses, or recto-vaginal openings are consequent to tenesmus, and dysenteric distresses from this cause.

female who, on our pronouncing the existence of pregnancy, and refusing her the use of abortive means, for which she offered the most liberal reward, stepped into the yard, and, grasping a post with both hands, suddenly forced her enlarged abdomen against it with, apparently, all the powers of her arms—this violence was repeated many times before we could get to her and loose her grasp; but she remained uninjured. It is then, not *immediately*, by the mere violence of percussion, that accidents, as falls, excessive exertions, &c. tend, as is generally supposed, to effect miscarriage; but by these causes so operating as to produce a descent of the uterus, or strong tendency thereto. It is but justice however, to the cause of truth, to remark here, that it is sometimes the case that the violence of percussion and such like powers may, and do operate otherwise, as by severing the tender and delicate connexion existing between the uterus and the placental portion of the ovum; but these cases are extremely rare, and the distinction of this *immediate* mode of action from that, through the mediation of *descensus uteri*, is easily ascertained, by the *immediate* occurrence of hæmorrhage. It may be still further observed that, even in those few cases in which the miscarriage is actually effected by the separation of the ovum by external violence immediately, and not through the intermediation of descensus, there is often a descensus produced simultaneously by the same accident, which, if disregarded, very often tends either to prevent conception subsequently, or to cause miscarriage in subsequent pregnancies, when such pregnancies do occur. Again: concussion and other such causes—mechanical violence of different kinds, may, and do sometimes operate also, by rupturing the membranes and causing a discharge of the waters; and this is liable to be followed by abortion of the whole ovum; but here another cause arises, which is either the undue pressure of the fœtus on the uterus, exciting it to expulsory effort, or the death of the fœtus, operating ultimately the same effect. In this case, however, it does not necessarily follow in all cases that abortion must be completed; but a preventive indication arises, which is, to prevent by suitable means that excitation of the uterus which results in expulsory action. This is often adopted with success, and a re-accumulation of waters takes place. And, lastly, such violences may, and do operate in such a manner on the uterus, otherwise than by causing its

depression, so as to excite inflammation, whereby abortion is sometimes effected. In the first and second of these modes of action, such causes may be considered proximate; but in the third, wherein inflammation is set up, this becomes a proximate effect in the chain of abortive phenomena, and a cause of the next phenomenon, or expulsory action; and the violence, becomes the remote cause. But the mode of action of such forces, to which we have before alluded, that is to say, by effecting some degree of *descensus uteri*, is abundantly more common than all others collectively; and in this case such causes* are also to be considered remote, and the descensus the proximate cause. In all these several modes of operation, whether as remote or proximate, there are often causes of an instant; not abiding, but leaving their effects, which are abortion only, or a proximate and competent cause of it; and do not, therefore, generally demand further regard in the treatment, than just to know that they are gone. There are, however, exceptions to this, the most common and mischievous of which is, the compression of the abdomen, by lacing and other tight dressing, which does not fail in those who are possibly susceptible of it, to produce *descensus uteri*.

Tight dressing, as lacing, as it is called, is a specimen of remote cause which is not always momentary; for, on account of the foolish—not to say criminal—sway of fashion over the intellects of some women, reason is reduced below instinct, which certainly would not tolerate the use of such an injurious a power; this cause does not pass away. Such a cause as this, would therefore demand the efficient attention of the practitioner in his attempts to secure his patient against the dangers of abortion, at least, when threatened. The same may be said of habitual laborious efforts of any kind which tend to call into violent action the abdominal muscles, and of violent coughs, &c. When, therefore, in the investigation, abiding causes of any kind are found, it would be more than unreasonable to treat the *morbid effects alone*, whilst the causes of these effects remain in operation. *Such abiding or continuous causes demand the first attention.*

But whether momentary only, or abiding, what is the effect of those remote causes? It is simply a descent of the uterus to some degree below its natural site. This effect once produced,

* Mechanical violence.

is not only too apt to abide, but is liable to constant increase in degree, as well as in irritating effects on the neighboring parts, and by re-action, on itself.

With this view of the case, the indication is perfectly plain—remove this *effect*, which has now become a *cause*—a proximate cause of irritation, the first pathological phenomenon belonging to the act of abortion. This indication may sometimes be fulfilled by horizontal rest on the side, with a moderate elevation of the pelvis, with or without regimen and other antiphlogistic measures, according to the degree of irritation already manifested. But as dangers sometimes—indeed often, speedily arise under such circumstances—that is to say, on account of irritation naturally belonging to the uterus, in consequence of pregnancy, this simple measure should not be long entrusted with the cure, without early and decided evidence of amendment. Under the necessity thus suggested, the more thorough practice of complete restoration of the uterus, per taxis, should be effected, and that, as often as an understanding and rational view of the case may demand. This proper adjustment should be combined with position and other means, according to the necessities of the case.

Observation of the uniform efficacy of this treatment—a treatment adopted in view of this cause, a phenomenon generally found on examination, to exist, assures us of the truth of the proposition we have advanced.

We would not be understood to say that this is the only cause of abortions, or that they are never effected by other causes; but we do mean to say that it will be found, by far the most usual, if not the only cause of all those which are not *obviously* attributable to other causes, (and these are a large proportion;) as well as of many which are *apparently* attributable to other causes. We mean to say, further, that although violent accidents, &c. may have instituted the troubles, and stand prominent as causes; and although they are indeed, remote causes; still the part in the chain of cause and effect which connects them with the final event—that part which explains their operation by effecting a descent of the uterus to a greater or less degree, which, in turn, becomes a source of irritation, is overlooked in common practice—the cause, (violence, for example,) has passed away; and therefore needs generally, no prescription; and, as the next phenomenon is believed to be irritation, as the im-

mediate effect of that cause ; *this*, and this *alone*, generally becomes the sole object of attention and treatment. Here, it will be perceived, the effect of another *interesting phenomenon*, which has, in turn, become *cause*, is subjected to treatment, whilst *its* proximate or immediate cause, not being detected, continued in operation. This is one of the grossest absurdities in pathology or therapeutics.

With one more remark, we will close this enquiry.

Periodical abortions, as those are sometimes called which occur about the same period of pregnancy, are those which, as Velpeau says, occur in the same woman at nearly the same period after conception, have been, too often, the opprobrium of the accoucheur. Whenever causation is not duly and properly considered, error, either of omission or of commission, becomes unavoidable ; either of which, may be alike injurious and inexcusable.

Our observation of these cases, compels us to differ essentially with our highly valued Velpeau on this subject. He says it "appears evidently connected with a *menstrual*, or *spontaneous molimen*." We will not deny the *possibility* of this, but its great infrequency is, with us, beyond dispute, and for these very good reasons, as we consider them—that in those cases in which abortion occurs about the same period of pregnancy, the *descensus uteri* is generally found to exist in some degree, sufficient to cause the symptoms, and its constant correction generally prevents an unfavorable result with as much uniformity as any other purpose is effected in practice. This proves the great frequency of the cause to which we attribute periodical abortions, and the great infrequency, at least, of *spontaneous* molimen. He allows it possible for it to arise from that special state of the uterus, *congenital* or *acquired*, which prevents its distension beyond a certain partial extent, corresponding with the period of pregnancy at which the abortion inclines to occur. To the *possibility* of this, we will again not object. As to such an acquired state, it has been again and again demonstrated by the scalpel of Madame Boivin,* and that too, as the result of *descensus* or *prolapsus uteri ;* but with long and extensive observation in these cases, we have no reason to believe we have ever met with

* Recherches sur une des causes, les plus frequentes, et la moins connue, de L'Avortement.

this "special state," congenital, or acquired, in such a manner as to be *necessarily* perpetual, except in those *disorganizations*, (as extensive adhesions, &c) resulting from disease of some kind, and generally from *descensus* or *prolapsus uteri.*

M. Velpeau next looks to the influence of *habit.* These having been looked to, as common causes, have done little better, if not indeed worse than an entire omission of all etiological investigation; for they have only served to divert attention from true causation.

In conclusion, we state that the truth of the proposition herein maintained, that the most frequent cause of abortions is some undue degree of descent of the uterus from its natural site, is not only clear from an impartial view of the facts, and their relative position in the chain of cause and effect; but a practice founded on this view, reveals the truth, that the timely correction of this phenomenon rarely, if ever, fails to prevent the dreaded disaster; and at the same time, reasoning from effect, determine, the true causation.

ARTICLE III.

Medical Electricity. By M. Antony, M. D. *Professor of Obstetrics and Diseases of Women and Infants, in the Medical College of Georgia.*

In the former part of this volume,† we advanced the important therapeutic fact, that the positive electric or galvanic pole, which is the *inducting* point, produces, when a current is established through the system, sedative, or what was, in old surgery, called discutient effect; and that the negative pole, which is the point of *eduction,* on the contrary, exalts the excitement. These facts have been established by very many experiments and observations of our own. They are, so far as we are aware, original, and were first suggested to us by our peculiar

† See "Medical Electricity," page 12, et seq.

theory of animal life, and proved by the experience founded on that theory, and instituted with a view to these facts.

Many years since, (we think about eighteen,) we observed in some Medical Journal, perhaps the Boston, a brief notice of some experiments made at Bath, in England, for the cure of epilepsy, by the application of galvanic plates; but which experiments, proving unsatisfactory, were, after several attempts, abandoned. There happened at the time to be, within our knowledge, an intractable case of epilepsy, in a coloured girl, about nine years of age; a case on which we had, two years before, exhausted our therapeutic resources, and had been followed by several other practitioners, and finally by the various empirical means of neighborhood prescriptions, patent medicines, &c. with no better results. Meanwhile the epileptic fits, which had been originally a month apart, had now become, in frequency, from eleven to twelve daily, with very considerable impairment of intellect.

On the suggestion made by the Bath experiments for testing the utility of galvanism, and believing we could avoid the cause of their failure, we instituted its use in this case. To our very agreeable surprise, the fits failed to return again. So soon as they were found to be arrested, having always attributed the case to worms, the infusion of Spigelia, which, as well as all other vermifuges, had been before repeatedly used, was now administered, and was promptly followed by the discharge of nine of the largest lumbricales we have ever seen. The patient commenced to improve forthwith. The plates were applied to surfaces deprived of the epidermis, by the previous application of vesicatories: one for the silver plate, on the back of the neck, and the other for the zinc plate on the inner and upper part of the leg. The plates used were nearly one inch square, and were connected together by two or three annealed wires; and a thin layer of fine wet sponge under the silver plate, and a similar layer of fresh flesh under the zinc plate.

Fearing the return of the fits, we were unwilling, notwithstanding the discharge of worms we had procured, to abandon the galvanic current, for twelve or fourteen days. During this time however, it was several times observed, that the sore surface on the neck, on which the silver plate was applied, had dried, and needed to be again and again vesicated; whilst that under the zinc plate had continued to increase in inflammation, until it be-

came so serious a sore as to compel the abandonment of the current.

Since this experiment, many have been made with similar results; some of which being on younger children, produced gangrene at the zinc point within three or four days; whilst the sore under the silver plate dried and became well, or nearly so. These experiments may be used, and the same facts demonstrated by any one at any time. Experiments were subsequently made by connecting the insulated body with the prime conductor of an electrical machine, making the *inducting* point on some seat of inflammation, and the *educting* one, a distinct, healthy portion of the skin, to which the knob of the discharging rod was applied by an uninsulated person, for the purpose of *eduction.* In these experiments, the inflammation at the positive pole was reduced, whilst vesications were raised at the point of eduction. Thus was it demonstrated, that the electrical current, however produced, acted on this principle—a principle which seemed calculated to guide to the most important therapeutic results.

In view of these operations of this physical agent, we have planned a variety of instruments, and adopted several others invented by other persons, for the application of this principle to therapeutic purposes, and named them according to their particular applications and objects. It is not now a matter of inquiry, whether the electric current acts on this principle? the only question is whether or not, the instruments are well adapted to its application to the several purposes contemplated. Several of them which we had constructed, we have repeatedly applied, with satisfactory results.

We have just received from our cutler, the following instruments, constructed more perfectly than those with which we have experimented; and feel assured, by the principle we have demonstrated that, so far as the *applicability* of the instruments, and the *immediate influence of action*, by sedation in one part, or excitation in another, or revulsion, is concerned in curative indications, they will be found efficacious, convenient and easy of application—and most of them capable of being applied by the patients themselves, or their friends or nurses.

The following are the Galvanic instruments—

The Galvanic Purgative. This was originally constructed

by some of the northern cutlers, and especially used as a remedy for dyspepsia, and habitual constipation; and so far as we have learned, without the knowledge of, or regard to any guiding principle of action. It consists of a zinc cylinder and a silver plate, connected by a silver wire. We have adopted two sizes.

No. 1. Cylinder of zinc 3 6-10 inches long, and 3½-10 of an inch in diameter; with an oval silver plate 2 7-10 inches long, and 1 4-10 inches from its greatest width.

No. 2. Cylinder of zinc three inches long, and 3-10 of an inch in diameter; with an oval silver plate 2 2-10 inches long, and 1 1-10 inch from its greatest width!

Remarks. This article has been considerably in use in the United States as a remedy for dyspepsia. We have not had occasion to use it in this chronic disease, which we generally treat on another plan. But we have repeatedly used it as a purgative power, and with satisfactory results. Its most important use, under our prescription has been, in those cases of tympanites which occur in gastric and intestinal fever, with red and swollen tongue, insensibility of the bowels to purgatives generally, soreness and tumefaction of the abdomen, with hiccough. In these cases we have repeatedly succeeded in promptly reducing the abdominal tumor from flatus, the abdominal tenderness, hiccough, preternatural redness, &c. of tongue, and indeed all the symptoms of the gastro enteritic state; evidently begining with the reduction of symptoms at the upper part of the canal, and finishing at the lower, in the manner in which this change is observed in recovery from this state, when effected by other means; but in a much shorter space of time.

Application. The cylinder is wetted and introduced into the rectum, and the plate is laid on the upper surface of the tongue. The application is continued from thirty to sixty minutes, and even longer if the bowels will bear it without excessive purgation, when it is desired to apply the principle to the inflamed state of the alimentary canal.

The Galvanic Intestinal Revellant. This instrument we have constructed on the principle on which this power acts, that is to say, the positive pole is repellant, and excitement and fluxion are produced at the negative. No case has yet offered for its use. But according to the principle of Galvanic action, it is well calculated for the correction of troublesome tenesmus, or other

irritations of the rectum, and probably in painful internal hæmorrhoidal distresses. We have adopted two sizes, Nos. 1 and 2. The cylinders and plates of these are the same size as those of the Galvanic purgative, but the elements are reversed, the cylinder of this instrument being silver, and the plate, zinc.

Application. This instrument is applied in the same manner as the Galvanic purgative.

Remarks. The large size, No. 1, of both the Galvanic purgative, and the Galvanic intestinal revellant, is adapted to the use of adults, and the smaller, to that of children. As this revellant does not lead to purgative operation as the Galvanic purgative does, it may be worn at will, according to the necessity of the case. Should there be fear of unduly exciting the stomach or tongue by thus reversing the direction of the Galvanic current, the zinc plate may be applied on the neck or some other part, with a thin layer of fresh flesh interposed between it and the denuded surface to which it is applied.

Galvanic Cutaneous Revellant. This instrument or apparatus consists of two plates of equal area—one of silver and the other of zinc, connected together by silver wire. We have adopted three sizes, oval, the proportions of which are as follows:

No. 1. Plates each three inches long and two wide, oval.

No. 2. Plates 2 2-10 inches long and 1 7-10 wide.

No. 3. Plates 1 7-10 inches long and 1 2-10 wide.

Remarks. The plates of this apparatus may be of any shape which is best calculated to suit the places to which they are to be applied. The proportion of the area of the different numbers should be about the same as those of oval shape, the dimensions of which we have just given.

This is the same instrument to which we before referred, as used in the Bath experiments in epilepsy, and as successfully applied by us in epilepsy, and in convulsions of children generally. We have, by its application, repeatedly arrested, with great promptness, perpetual convulsions, from various causes, and prevented their returns, when not perpetual. In illustration of this, we will refer to one case. A girl, eleven years old, laboring under searlatina, had several convulsions, returning after two or three hours intervals; and there being no change in the circumstances of the case, it was believed they would continue to return. The apparatus was applied as soon as vesications

were produced. No convulsions returned for the next twenty six hours. By this time, the negative pole having become somewhat offensive, the zinc plate was removed for dressing the sore with a fresh layer of flesh ; and in the short space of time necessary for washing the sore and applying the new dressing, another convulsion as violent as the former had been, came on. The dressing was completed, and kept several days without cleansing again, during which time a thorough course of anthelmintic medicines succeeded in causing the discharge of many lumbricales. By this time however, the negative pole had caused a very offensive ulcer, covered with a gangrenous slough. The apparatus was then removed, and the sore dressed with an alkaline poultice, which speedily corrected its ill disposition, and no further convulsions returned.

Application. The surfaces to which the plates are intended to be applied, should be first denuded of the epidermis, to the size of the plates intended to be used. This may be done by any of the vesicatories—even by hot water, when the necessity is very immediate. The cuticle is removed. The blister to which the positive pole is to be applied, is covered with a piece of fine wet sponge, on which the silver plate is placed, and secured by adhesive strips crossing it in different directions. The negative pole is applied in like manner to the other denuded surface, interposing between it and the surface a thin layer of flesh instead of sponge. We have adopted these interposing substances, from their having been thus used in the Bath experiments. We are not conscious of any good reason why both of these should not be of the same material—their uses being to shield the sore from the wounding of the plates, and at the same time to preserve a moist, conducting medium at those points of contact. We continued the use of sponge and flesh as above, because we found them answer our purpose.

For the action of this current on the general nervous system, and producing a revulsion from the great nervous centres, the positive pole should be applied as high as possible on the spinal column, or rather, as near as possible over the medulla oblongata ; and the negative, on some convenient place on one of the lower extremities, as the inner and upper part of the leg, a little below the knee joint. In its application for other purposes, the positive pole is to be applied on the point at which it is desired

to reduce the excitement, or produce a resolvent or discutient effect, and the negative on some distant part which may be most convenient.

Galvanic uterine exciter or emmenagogue. This apparatus consists of a concave zinc plate, mounted on the large concave end of a trumpet-shaped horn rod, somewhat resembling a stem pessary, having a rod of the same material proceeding from the under side of the plate, through the horn longitudinally, and terminating beyond the small end, in a button, to receive a bandage, and a loop or small hole to receive a wire ; thus making this part of the Galvanic current complete, whilst, by the insulation effected by the horn, the current is the more completely directed through the os tinæ, which is intended to rest in the concavity of the zinc plate. The other part of this apparatus is a plain silver plate, corresponding in area with the concave zinc plate above described ; and connected with it by a silver wire.

Of this apparatus, there are three sizes—

No. 1. The vaginal piece, exclusive of the button and loop, five inches long ; and the zinc plate on the large or uterine end, one and three quarter inches in diameter.

No. 2. Vaginal piece four inches long, and its plate one and a half inches in diameter.

No. 3. Vaginal piece four inches long, and the plate one and a quarter inches in diameter.

Remarks. This instrument is constructed, as will be at once perceived, for the application of the negative or exciting pole to the os uteri itself, and is, according to the principle on which it is constructed, calculated to effect all the good possibly afforded by any means calculated to increase the action in the uterus, or determine fluxion to it. The irritation and increased fluxion to the os uteri by the application of leeches, has of late years been much depended on for restoring menstruation. This apparatus certainly has not the power of depleting by wounds as the leeches do, but has all the desirable power of excitation ; and, whilst the leeches are necessarily of short application, and extremely inconvenient—necessarily requiring the assistance of another person, and sometimes that of the practitioner ; this apparatus may be as well applied by the patient, as by another person, and its exciting powers continued to any desirable extent.

It is proper however to remark, that its use must be carefully

avoided in those cases in which there is engorgement of the os and cervix uteri, or any considerable irritation of them; and should never be so long continued as to exalt the action to inflammation. This could not be, we apprehend, in the space of twelve or twenty four hours, as the part to which it is applied is not divested of its natural covering. It is therefore only applicable to those cases of menstrual deficiency, in which stimulating emmenagogues are properly indicated.

There is however, another very important office which this apparatus is calculated to subserve. A very large proportion of cases of menstrual irregularity are dependent, partly or entirely on the existence of *descensus* or *prolapsus uteri;* the correction of which, if timely effected, will be often found to remove the difficulty; whether it be retarded, accelerated, excessive, deficient or merely painful menstruation. This benefit is effected through the liberation of the arteries, veins, lymphatics, nerves, by removing that pressure of the uterus which tended to the impairment of their functions; and peculiarly those of the absorbent vessels through which alone refluxion from the part can be effected. The use of the vaginal piece of this apparatus is admirably calculated to relieve this pressure, when bound to its place for a length of time, as twelve or twenty four hours, by the bandage which embraces the button or vulvar or small end. At the same time this liberation is effected, a wholesome excitation must be imparted to the circulatory organization of the part, and the more complete performance of function ensured. We suggested this apparatus, on the principle only, as this application of it has not been made. Electricity has often been successfully applied from the machine; and this fact seems to declare its utility.

Application. The uterine or large end of the vaginal piece, is introduced and carried on to the upper part of the vulvo-uterine canal; which, when it arrives there, can scarcely fail to receive the os uteri into its concave extremity. A T bandage is then to be so applied, as to receive the button of the vulvar, or small end, into a hole made in the bandage for that purpose. The bandage should receive the button before the wire is fastened to the loop. The silver plate of corresponding area, belonging to the same No. is then connected with the vaginal piece by silver wire, and may be applied on the tongue, or on a denuded place on the back of the neck. The latter will be preferable when it

is desired to continue the application more than two or three hours at a time, which we apprehend would generally be the case.

The Galvanic Uterine Revellant. This apparatus is constructed precisely as the uterine exciter just described; the elements been received only. Like the former, three sizes of this have been adopted, Nos. 1, 2 and 3.

Remarks. This apparatus is also suggested by the principle of galvanic action; by which it is peculiarly adapted to cases of irritable os uteri, engorgements of the same, &c., at the same time that, like the other, it seems for the time, as a stem pessary.

Application. This revellant is applied in the same manner as the exciter.

The Mediate Ocular Revellant. This apparatus consists of a concavo-convex silver plate, of suitable dimensions, to cover the front of the eye-ball by being placed with its concave surface on the upper palpebra when closed. From the middle of the convex or external surface, which is covered by tortoise shell or horn, or other electric, proceeds a metallic projection through the electric, and forming a button and loop, used for receiving a bandage and a wire. By means of a silver wire, the loop of this silver plate is connected with a plain zinc plate of equal area.

Remarks. This apparatus is yet untried, and is only constructed on the suggestion of the principle on which galvanism operates. It is applicable to the treatment of inflamed eyes, in which a discutient effect on the organ is desired.

Application. Apply the concavo-convex plate of silver immediately on the closed upper lid—secure it with a bandage embracing the button, and passing a silver wire through the loop or hole beyond the button, connect it with the zinc plate, which is to be placed on a denuded surface on the back of the neck. A thin layer of fine, wet sponge is to be interposed between the silver plate and the eyelid, and a piece of flesh between the zinc plate and the denuded surface to which it is to be applied.

The Mediate Ocular Exciter. This apparatus is constructed precisely as the mediate ocular revellant, except that the galvanic elements are reversed; the zinc being made concave to fit on the eye-lid, and the silver plate plain for the neck.

Remarks. This is intended for fulfilling the indication of in-

creasing the excitement of the eye ; an indication, perhaps, rarely arising in practice. It was particularly on view of experiments with this indication, in amaurosis, a disease, hitherto so unmanageable, that this arrangement of the galvanic elements was prepared for application to the eye ; and is it not worthy of trial in such a disease ? It will not be denied that a remedy in such cases is a great desideratum. Other cases may occur in which this action may be desirable ; and we here ask the attention of surgeons who attend eye infirmaries, to the several galvanic arrangements we have constructed for application to the eyes, and should esteem it a great favor to receive reports of their results.

Application. This is the same as that of the last named, or ocular revellant, except that the concave zinc plate is placed on the eye, and the plain silver plate on the neck ; the thin layer of flesh, of course, under the zinc, and that of sponge under the silver plate.

The Immediate Ocular Revellant. This consists of a very delicate, oval shaped, concavo-convex silver plate, finely polished and fitted to the forepart of the eye-ball, within the lids. It has a thin loop proceeding from the centre of the convex surface, to pass between the eye-lids, and receive the silver wire which is to connect it with the negative, or zinc plate of like area.

Remarks. This is intended for exercising, in a greater degree, the same repellant efforts designed by the immediate ocular revellant; particularly in severe conjunctivitis, and other inflammations affecting the globe of the eye. It is so constructed as to be worn with nearly the same ease with which a false eye is worn.

Application. The concave silver plate is interposed between the palpebræ and the anterior part of the ball—concave to the ball, and the greatest diameter of the oval, transverse ; the loop passing between the tarsi to receive the wire. The plain zinc plate is connected to the loop by a silver wire, and is applied to the neck as in the application of this plate in the use of the mediate ocular revellant. A thin layer of flesh is interposed between the zinc plate and the denuded surface. A bandage and light compress over the eye-lids, will secure the silver plate ; and strips of adhesive plaster are to be crossed over the zinc plate.

The Immediate Ocular Exciter. This instrument is constructed in the same manner as the immediate ocular revellant; the galvanic elements being reversed, so that the concave eye plate is of zinc.

Remarks. It is intended to operate in the same manner, and for the same purposes, as the mediate ocular exciter, but with more power, by being in immediate contact with the moist conjunctiva, as the silver plate is, in the immediate ocular revellant.

Application. This is applied in the same manner as the immediate ocular revellant, except that the layer of sponge is used, in this case, under the plate on the neck, which, with this arrangement, is silver.

The following are the electrical instruments, or those intended for infusing electricity into the part, or operating on that which is in it, and so modifying it as to exercise a salutary influence on such morbid affections as they are applicable to; or such as may be benefitted by modifications of the electricity of the part.

The Anodyne, or Electric Brush. This instrument is constructed of very fine steel wires, firmly inclosed at one end, in a metallic handle, having the other ends pointed and left free, to be used in the manner of a brush, which, indeed, it is. The whole instrument is about five and a half inches long—the brush part, below the handle and slider, being three inches. The brush is flat, and at the handle, where the wires are closely confined by the handle and slider, is 6-10 of an inch wide, and 1 1-2 10 thick, and contains ninety or one hundred wires. Immediately below the handle, and on the upper part of the wires, is a slider, which fits so strictly as to keep the wires in close contact. The use of this is to bring the wires into close contact, by sliding it down to the extremity, for introducing them conveniently into the case. A metallic cover then passes over the brush, and sliding on the lower part of the handle, completes the whole as a convenient pocket instrument.

Remarks. This is an improvement on the anodyne brush of Professor Hildebrandt. Instead of a round bundle of wires, illy applicable to any surface of the body, we have constructed it flat, and completed it as a neat, portable instrument, incased in silver or block tin.

Hildebrandt obtained by the use of his, in various painful affections, such results as caused him to indulge freely in its use,

and give it the name of "Anodyne Brush," from its power of relieving pain. With a rude one of our own construction, we have had experience, with very satisfactory results. One case in particular occurs to our recollection, which was the first in which we applied it. It was a case of painful stiff-neck from the effects of cold, in which the head was confined to only one precise position—the most exquisite torture arising from the least change of position. After the use of the brush over the painful muscle for ten minutes, the part to which the brush had been applied, became flushed with red color, and covered with perspiration. The lady was then requested to turn her head, which she first attempted, with great fear of extreme pain; but on making the attempt, she found, to her great surprise and gratification, that she could move it in any way, with perfect ease. She then covered the part with her cape. On making some movements of her head, in conversation a few minutes afterwards, however, she perceived some little sensation in the part, for which I again applied the brush for two or three minutes, when on trial, it was found to have disappeared, and she remained perfectly well.

Use. Heldebrandt's brush was made of copper or iron wire, and wetted with diluted acid, or a saline solution. As these improve the conducting power, they may possibly tend to heighten the effect of the brush; but on account of their corroding power, we applied the brush without their use. The manner of using it, is to place the points of the wires at the brush extremity, on the skin, in such a manner as to bring as many points as possible into contact with the surface. The brush is then gently drawn over the surface with its own weight, or perhaps a little more pressure; but not such as to give pain by scratching, or abrading the skin. This is done repeatedly in the direction from the central extremity of the nerves of the part, towards their peripheral extremity. Its use may be continued as long as may be convenient, or until the effect is completed. As the part may then be moistened, or unusually excited, it will be well, if the part be one ordinarily covered, to cover it with flannels; at least in winter.

The Electrical Box. An ample description of this box is given in the first paragraph on the twenty first page of this volume; and the appendages to this apparatus, in the two succeed-

ing paragraphs. It is therefore unnecessary to report it in this place. On the next page, we suggested the improvement of this box by substituting for the sulphur, an electric of shellac, amber, or hard sealing-wax. We have succeeded in procuring one constructed of sealing-wax, which appears at least as excitable as that of sulphur.

Remarks. This is "the box," originally invented, as we suppose, "by M. Sousselier, Lord of many manors." It is a kind of economical electrophorus, and has been found highly useful in many painful, inflammatory and nervous affections. Its mode of action will be found on the 22 and following pages of this volume.

Use. The use of the electrical box will be found at large on the sixteenth and following pages of this volume, together with its application to many particular cases, on the sixteenth and following pages, to which we again refer the reader.

Here we conclude our description of galvanic and electrical apparatus, the use of which we suggest to the profession, in the hope that they will be found of service to humanity, or will undergo such improvements, either in their construction or application as to become so.

One more new instrument we offer to the notice of the professors, which is

A Guarded Scarificator. This is a small instrument, not occupying in the pocket, more room than the handle of a common pen-knife; which, indeed, it greatly resembles. The handle of this instrument may be made of wood, bone, horn, ivory, pearl, &c., on the end of which is fixed a smooth convex guard, through the centre of which a fleam projects, which is regulated and fixed by a screw in the side of the handle, so as to cut to any depth less than three quarters of an inch. This instrument is as conveniently portable as a pen-knife, is easily cleansed and kept in order, and the fleam retracted into the handle for portage. It is so well guarded as to enable the operator to make as many incisions, and these in as quick succession as he may please. The price is considerably cheaper than the spring scarificator which, for economy or the comfort of the patient, is often substituted by the common scalpel. It has the additional advantages of being easily cleansed and kept in good order, and of changing the old for a new fleam, by the turn of one screw.

By increasing the length of the handle, this scarificator would be found very convenient for scarifying the tonsils and assuaging palatine abscesses; and as it is, it is well adapted to the purpose of scarifying deeply in those cases in which this becomes necessary.

Part II.—REVIEWS AND EXTRACTS.

Introductory Lecture, delivered at the opening of the Medical College of the State of South Carolina, November 12th, 1838. By Professor S. H. Dickson, M. D. Published by the Class.

The appropriateness, to its purpose, of Professor Dickson's composition—his accuracy as a writer, and the beautiful simplicity of his style, are too well known to need our commendation. Of all these, the Lecture before us affords a pleasing example. One thing which is common in productions of this kind, and which is peculiarly disgusting, is the mongrel language in which the ideas are often couched—a language concocted of incompatibles and obscurities, from the admixture of as many different languages, as the memory and pedantic taste of the writer enable and dispose him to jumble into words, lines and pages. Some of our books which should have been standard works, have been blighted in the very onset by being thus written in obscure, puerile language. These errors are great follies in writers, which have, of late, received wholesome rebukes by the northern reviewers, and by the failure of such productions. The good taste, sense of propriety, and sound judgment of the author now before us have borne him above these things. He ever writes with that elegance and simplicity which render his productions at once pleasing and instructive. There is also manifested in Professor D's. composition, a fulness of thought, and depth of idea, which imparts to it a peculiar value. The whole ground on which he stands is fully occupied, and the strength of his views, although sometimes, at first, appalling, are still found, on examination, to be correct. We take great pleasure in laying before our readers the following excellent and beautiful extract, not only on account of its classical beauty, but for the highly wrought and correct views which he inculcates, of the labors, the acquirements,

the obligations and the responsibilities of those who devote themselves to the science of medicine.

From the earliest times, our order have set themselves with unabated zeal and untiring patience, to mitigate the sufferings of their fellow men. We have watched by the gray dawn, through the noontide heats, and all the livelong night, at the bedside of the sick, to catch the first ray of hope, to seize upon the first favorable moment in which to offer our kindly aid. While others have fled before the approach of pestilence, we have remained by the noisome couch, we have breathed the foul breath, and inoculated ourselves with the deadly secretions of disease, to wrest even from the grasp of the poison some salutary instruction. Nay! to protect and preserve the living, we dare the very vapours of the charnel-house, and inhale the revolting effluvia from the dead. Like the Prometheus of the Greek Poet, it has been our pride to struggle against Fate herself, and to traverse with unbending resolution the evil current of destiny. It is ours to stand in the breach—to arrest the contagion that infects whole nations; to check the course of the destroyer, and to put limits to the sway of the dread king of terrors. We are called upon to sustain the fainting spirit, and feed the flame of almost exhausted vitality; to restore impaired vigour and lost powers of action and enjoyment. We are expected to "minister to the mind diseased;" to relieve the tortured imagination from the horrors of a gloomy delirium; to temper the violence of passion; to regulate the wildness of the will; and to seat the vacillating intellect upon a steady throne.

These scenes—such entire and unreserved immolation of self--such devotion to the call of duty; demand a firmness and courage of more inflexible grade and of finer texture, than all the other avocations of life. No transient excitement can sustain us in this protracted self-sacrifice, no love of applause, no intoxicating impulse or exhilaration of sympathetic and multiplied feeling. We labor, we suffer, we die alone. No crowd surrounds us to increase by its huzzas the animation of victory, or cheer the gloom of the grave. Yet of the thousands of our brethren who have thus like Curtius leaped into the gulph, and thrown away their lives for their fellows, not one, as we fondly believe, not one has failed to find his obscure virtue, its own rich reward; its quiet daring, its patient endurance sustained and illuminated by the delightful consciousness of doing good—by the divine luxury of benevolence. If there be one among you who does not find himself warmed and spurred forward by such examples, who does not anticipate with glowing enthusiasm the day when he may join these shining ranks as a volunteer, and if need be, a martyr, I tell him plainly, that he has mistaken his vocation—that he is not one of us—that he is not worthy to unloose the shoe-latchet of those glorious Philanthropists, to whom I have alluded, and who to the honor of our profession and of humanity, are in every age and nation so numerous, that their biography would fill another library of Alexandria. He may be gifted and useful, but it must be in another sphere. He may found a city, or improve the processes of Agriculture, or the machinery of manufactures; he may win a naval battle, or ride red-hoofed over the mournful field of conquest; but unless he can possess his soul in tranquillity amidst the busy solitude of a lazar-house, and perform without repugnance the most menial offices of kindness to an unknown pauper, he is not, he never will be a Physician.

Let it not be supposed, that I am ignorant or forgetful of the infirmities of our nature, or unaware of the alloy and imperfection of the best human incentives to action. In the phrase with which the Persians conclude all treatises on every subject, I too would humbly acknowledge, "There is nothing perfect but God!"—but you will readily understand, that I speak of *the ruling passion*, the *impelling motive*, the *master propensity*. In the true Physi-

cian this must be benevolence, and can be nothing lower. Its energy may be increased perhaps, its efforts certainly may be doubled, by the stirring incitements to ambition, by the hope of wealth, by the wish to attain importance and influence in society; all these are allowable, it may be, praiseworthy, if the hand be pure and the heart be right, and every other feeling be kept subservient to the engrossing purpose, the absorbing desire of doing good. Do I require too much of the aspirant after medical honors? Surely not. Without the support of such principles as I have indicated, and of such enthusiasm as I have pronounced necessary, he will fail in the hour of trial. His weapons, if of less than this celestial temper, will shiver in his hands when he has entered upon the strife which awaits him, and finds himself jostled in fierce collision with all the difficulties which are to surround and press upon him. Nothing else can preserve him from the arrogance of dogmatism, the bitterness of rivalship, the stings of jealousy and envy, the mean subservience to popular prejudice and vulgar clamor, in which he will make shipwreck of the proverbial honor, the *prisca fides* of the profession, and in his anxiety to promote his own objects, and aggrandize *himself* forget his patients, his conscience, and his God.

It is easy to shew that I have exaggerated neither the extent of the sacrifices, the exhausting and wearisome weight of duties, nor the wide and lofty efforts demanded of the profession.

With the best statistics we have, in hand, relative to the average duration of life of men of various classes in Germany, Professor D. next reminds the pupil of the greater brevity of the life of the physician than that of any other class of men—"not exceeding *ten* years of actual practice;" and that "the chance of attaining the age of 70 is for the physician, compared with the theologian, as 24 to 33—with the agriculturist, as 24 to 40, and, even including all the contingencies of a military life, with the soldier, as 24 to 32. These conclusions are drawn from a sufficient compass of time to give them great claim to fairness. In the conclusion of the lecturer's observations on this subject however, we find the following remarks, which we confess we are unable to receive as conclusive, relative to the average duration of life amongst the graduates of the Medical College of the State of South Carolina, for the years 1834, '35, and '36; and much less, relative to that of physicians generally.

"Of the 120 Graduates who received their education here within the three years preceding the last course of lectures, we had heard of the death of eight. This gives an average duration of life after entrance on practice, of considerably less than 15 years; a melancholy result indeed, when we reflect that the subjects of this calculation were all in the very prime of youthful vigour."

In the first place, the number of deaths and the ages at which the graduates died, appear to be determined doubtfully—because, more may have died than have been heard from. And in the next place, if we suppose this uncertainty removed by positive assurance of the continuance of life with the rest, all not having died, it appears to us impossible to determine the aver-

age duration of life amongst the 120, until its termination with all of them, is taken into the statistical view.

The next subject embraced by the Professor, is a brief but proper view of the immense number and extent of resources from which the practitioner should be prepared to draw, before he can be considered duly qualified for the discharge of his professional obligations, with justice to his friends and to himself. This view embraces all philosophy—all sciences and all arts—a field which, although it be desirable, and should be cultivated in all parts to the greatest possible extent, is rather Utopian than practicable, when we consider the "*vita brevis*," alluded to by the Coan sage.

We cannot but admire the eclectic spirit, the merited tribute to Dr. Cullen, and the rational views of medicine contained in the following extracts.

We may spend a few moments not unprofitably, in taking a rapid survey of the actual state of Therapeutics, or the Practice of medicine; properly so called, in the several countries of the globe, and in endeavoring to ascertain the true position of our science, the ground upon which is based the art of healing, as at present understood, practised and taught. Let us inquire whether any principles are established—any doctrines received as elementary. What is the complexion of modern Medicine? Is it embodied in the shifting Kaleidoscope of theory, or shall we look for it in the vagaries of a contradictory Therapeutic? Which of all the vehement and angry disputants who fill the arena and stun us with their noise and dogmatism, shall we pronounce to be in the right, or shall we venture to declare them all equally in the wrong? What clue shall we seek to guide us through this labyrinth? These questions seem at first difficult and embarrassing, but if investigated with the proper spirit of philosophic reasoning, admit of ready solution. No one will doubt or deny that facts ascertained by experiments sufficiently clear, and repeated sufficiently often, and observed by a sufficient number of competent witnesses, must be taken as the bases of all the sciences, and of ours among the rest. The ready reception of bold assertions, the prompt credulity which entertains without proper inquiry statements and explanations confidently offered, these constitute Empiricism. The very phrase is odious to the professional ear, but we cannot escape from the alleged necessity. We must still search for, accumulate and collate *facts*, in order to make any advances. It is obviously incumbent on us, however, to lay down for our safeguard and direction, some rule of evidence, and establish some definite test by which we shall separate truth from falsehood, and avail ourselves of the former, while we endeavor to shut out all error and deception. And here we may pause to pay a tribute to the memory of the illustrious Cullen, to whom more than any other of our revered predecessors, the Practitioner of the present day is indebted for whatever is most clearly established in the prevailing system of Therapeutics. To Cullen we owe the "rational Empiricism," as it is styled by one of his recent eulogists,—which guides the practice and instructions of the British and American Schools of Medicine, constituting indeed the peculiar stability of that Therapeutic which has so long withstood all the stormy changes of theory, and which, admitting to be interwoven with it all the improvements of every tributary science, grows with their growth and expands as the boundaries of human knowledge are enlarged. Against this rock have beaten in vain the turbulent wave of Brownism, and Broussaisism and Hahnemanism. In contrast

with it, all the antagonist heresies are shifting and transient; nay they cannot fail ultimately to contribute to its support and confirmation. Each theorist appeals at last to facts—there is no alternative; each consents, and must consent to be judged by the observed results of the application of principles or hypotheses suggested. If, says Broussais, the most ingenious and obstinate of dogmatists, in his late forcible strictures upon the numerical plan of Louis—"if it can be proved upon experience that Tartar Emetic will relieve a Gastro Enterite, I will administer it; if Arsenic will do good, I will prescribe that."

This then, we may recognize, as the primary rule, the elementary principle of our science. We may regard the Cullenian Philosophy of Rational and Eclectic Empiricism, as established beyond the reach or prospect of further controversy. All that remains is to define exactly what is meant by the qualifying adjective 'rational,' and to lay down such sules of evidence as shall commend themselves to all men upon the universal grounds of reason, justice and truth. But we cannot set up any new methods for the examination of testimony in reference to alledged facts—we must employ the same tests which are resorted to in Logic, Law, Natural Science, Natural and Moral Philosophy. Our Empiricism will indeed be rational, enlightened and Eclectic, when it is thus guarded; storing up recorded observations, cautiously considered, duly weighed, carefully collated, and from these, by the Baconian method of deliberate induction, proceeding to infer principles and weave a tissue of doctries. It may be, nay it must happen, that we shall be occasionally hasty in this deduction, and regard principle and doctrines as settled, which time shall overthrow by adducing new, clearer, and more precise facts in opposition or illustration. But this is obviously no fault in the system; it is merely the result of the admitted imperfection of all human attainments. We know we are in the right path; we must not expect to find it free from intricacy and impediments; we must exert ourselves with energy to overcome difficulties found to lie in our way. All extremes are proverbially dangerous; they are almost universally erroneous in themselves, as well as in this, that they necessarily imply error, from excess. But the golden mean in which truth and safty are only to be found, is of course distasteful to all formers of sects and their zealous followers, who unite to attack and disparage it. Thus the rational Empiricism, in which lies the whole philosophy of Medicine, is assailed with equal violence on one hand by the Dogmatists, or ultra-scientific Physicians, and on the other by the mere Empirics, properly so called, the nostrum mongers, the men of exclusive experience and observation; and in this crusade are allied the Physiological School, with the Brunonians, the Perturbers with the Pinelians or Expectants, and the Homoiopathists with their natural enemies, the extreme Allopathists or Contrastimulators. But we defy them all! Nay more—as Eclectics, we select from the armory of each his best weapons, and make them useful in the interminable contest. From the champion of every school, we are willing to learn what he is eager and able to teach, and as in the phrase of Bacon "all error is founded upon some truth," we find instruction every where.

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We have inherited too much of the practical propensities and habits of our British ancestry, to run great risk of being led far into the misty fields of Hypothesis. Permanent reputation and eminence are to be attained among us, only by direct usefulness, and an immediate application of scientific acquirements, to the purposes of philanthropy. All our successful medical works are therefore of a strikingly practical character, and so thoroughly Eclectic are we, (I had almost said by instinct) that every effort to put forward the exclusive claims of any school whatever, has not only failed altogether, but has recoiled promptly upon the head of the rash advocate who consulted so

little the genius of his compatriots. We have determined, as well in science, as in government, "to call no man master."—Our Chalmers, Rush, Irvine, Hosack, Eberle, and Physick, were all Eclecto-Empirics, and their successors, whether in the cold and calculating East, the ardent South, or the fertile valleys of the West, pursue the same course, and with every prospect of fulfilling the same happy destiny, of enlarging the bounds of useful knowledge, and subtracting something, each in his turn, from the vast mass of human misery.

The space already occupied admonishes us to draw this analysis to a close, which we do with regret, because our readers will thereby be deprived of many pages of this interesting and able lecture, the reading of which could not fail greatly to contribute to their pleasure. We cannot, however, take our leave of it, without extracting the following sensible and just allusion to the great mammoth quackery which now infests our country, taking advantage of the credulity of an unsuspecting populace, ignorant of medical philosophy, and of the collateral sciences, by affecting an unholy and impious alliance with sacred orders, to borrow therefrom a weight of influence for its support, which its own merits cannot afford—

While we are thus ascribing 'honor to whom honor is due,' let us extend our acknowledgments to the Patent School of American Physic, which surely must deserve this notice at our hands, patronized as it is even by educated men among us, who have purchased the 'rights' which shall entitle them to experiment upon the lives and happiness of their helpless families and slaves, (whom heaven protect from the disastrous results!) and sanctioned as it has been by certain Legislatures in the South and West, who have thus granted a premium to indolence and presumption. Since the earliest records of Quackery, nothing has been heard of, to be compared in audacity with this Mormonism in medicine; this system, which not only treats all diseases by rule and measure, but actually claiming to be derived from heaven by the express "gift of God!" sneers at all science and learning, and in the broad light of day denounces their votaries. It is well that ignorance has been thus avowedly made its basis, as constituting the most available attempt at an apology for the tools of the shrewd old Patriarch—the only gainer by the invention. "Father forgive them, for they know not what they do?" From these Thomsonians or Botanical Practitioners, we have learned that the credulity of the mass of mankind, in affairs which concern their physical health, is absolutely unbounded, and without a horizon; that the vanity of the rudest and most untaught disciple is flattered at being allowed to handle the instruments, instead of passively submitting to the skilful workman, while his conscience is quieted by the ease with which all responsibility for consequences is shifted to the shoulders of the distant patentee; that the vapor bath, with certain emetics and stimulants are empirically applicable to a greater number of cases by disease, than would have been subjected to the trial of any one less reckless than themselves; and that the most fiery cordials and alexipharmics given to a patient in fever, will not necessarily kill him, however indefinitely they may injure his constitution.

The following interesting extracts from Dr. Sigmond's Lectures on Materia Medica and Therapeutics, are taken from the American Journal of Medical Sciences, for November, 1838.

Efficacy of Aconite in the cure of Rheumatism. From all that has been written by a vast number of men of great practice, of watchful mind, and of the most unquestionable integrity, aconite is one of the most important therapeutic agents in certain states of rheumatism. I have had occasion to tell you that, in the very early stage of acute rheumatism, when the patient has just been seized, and where the muscular system only suffers, Dover's powder is an invaluable agent, if blood-letting has not been the first remedy, which it very often is, and that it may be considered a specific; but when the joints are tumefied, when they are painful, and the suffering is agravated by the slightest touch—when the swelling is diffused and elastic, and the skin is intensely hot, aconite is the most serviceable remedy with which we are acquainted. It is sometimes extraordinary, when not only the sub-cutaneous and deeply cellular tissue are affected, but even the cartilages of the knee-joint, the periosteum, and the articulating capsules are evidently the seat of rheumatic inflammation, how speedily pain is relieved, and health restored, by the administration of this agent, which Dr. Lombard has reason to consider acts specifically, and great praise is due to him for the revival of a practice which had obtained, in former days, the sanction of the greatest authorities of the continental schools. In gout its efficacy does not seem less decided.

In all the various seats of rheumatic inflammation, whether the disease have been of long or short duration, however great the agony which has been expressed, however incapable the limbs have been of bearing the slightest motion, aconite has been acknowledged to have proved of the most decided service; the testimonies in its favor are so numerous, that I have felt surprised that, in this country, it has not been a favorite; and I can only attribute it to the want of a good supply for the use of the practitioner, and certainly, the carelessness with which the herbalist has treated this remedy, has been sufficient to prevent its more frequent employment. It was not Stoerck alone who praised aconite; we find not only the German physicians, but the Swedish medical men, loud in extolling its merits, and they are generally slow, but right, in the conclusions to which they come. Rosenstein gave an interesting narrative of a young female who suffered almost martyrdom from rheumatism in the hip joint, for no less a period than eight months, but who within two weeks from the trial of this remedy, was restored to health. Blom and Odhelius, in few words, express their satisfaction on employing it at the hospital in Stockholm. Ribe has narrated an interesting case of a female who, besides suffering the most intense agony, and perfect incapability of moving her arms, had her muscles contracted and hardened, so that they almost wore the appearance of ivory.

There are many foreign writers who have added testimonials in favor of aconite, but the one, probably, that outweighs all others, is the benefit which happened to the veteran professor of Materia Medica, at Gottingen, Andreas Murray, who, in his invaluable "Apparatus Medicaminum," says, "Possem si opus esset plura rheumatismi exempla curati etiam ex propria experientia addere et nominatim, ischiadis nervosæ cujus ante paucos annos tormenta atrocissimi ipse sensi sed vesicatorio et Napello brevi discussa." When the limbs have begun to be rigid, to loose all power of motion, and even where the muscles have begun to waste away, and however apparently hopeless, from the contractions that have taken place, the case may seem, the number and variety of successful cases give us reason to anticipate a successful result from this powerful remedy.

Notwithstanding all that has, at different periods, been urged as to the va-

lue of aconitum in rheumatism, it would, probably, have been consigned to oblivion, and colchicum would have remained the favorite remedy, had uot Dr. Lombard, of Geneva, instituted his experiments, which deserve, at our hands, the warmest eulogiums.

The failures that were so often experienced from the employment of the common extract, either from the presence of too much vegetable matter diluting the active principle, or from some fault in the preparation, induced Dr. Lombard to try an extract obtained from the expressed juice of the plant, subjected to slight boiling, in order to coagulate the vegetable albumen ; this was evaporated in a sand bath, treated with alcohol filtered, and then again evaporated at a moderate temperature. He obtained by these means an extract, upon whose efficacy he had, from repeated trials, every reason to depend ; the volatile principles were not dissipated, as in the ordinary extracts, and the active principles underwent no modification by the application of heat. This alcoholic extract of monkshood, Dr. Lombard agrees with others, possesses a specific virtue in dispelling rheumatic fluxions which have been determined to the articulations ; he believes its power not to be confined to the immediate vicinity of the articulations, but to extend to the synovial membranes, and to essentially contribute to excite the absorption of fluid effused within them ; its action is speedily evinced, and patients have stated to Dr. Lombard, that they have felt great alleviation of their sufferings in the course of an hour ; this, however, is not a general law ; from twelve to 24 hours form the usual period of improvement. A certain degree of excitement of the brain attended upon its administration, marked by a degree of gaiety, great vivacity, and nocturnal visions ; in no one case did he perceive any disagreeable effects arise, although he has administered as much as a drachm and a half in twenty four hours. In only one case did it act as a sudorific ; he does not attempt to explain its mode of action, but contents himself with the idea, that it is a specific against rheumatic congestions. It acts upon the excretions neither by altering their appearance nor their quality. He found it not requisite to combine the aconitum with any other drug, and therefore, prescribed it alone ; he began with one-fourth, or half, of a grain, which he gave two or three times a day.

This power of producing absorption at the joints has, from an early period, been attributed to aconite, and in gout it had met with the commendation of Stoerck, but it was ascribed to its sudorific agency ; and its effects upon the transpiration by the skin, were promoted by confining the patient to bed. and giving him large quantities of ptisan ; for this purpose, Rosenstein ordered an infusion of the flowers of the elder ; sometimes perspiration was thus promoted over the whole of the body, at other times it was confined to the affected part. Gesner observed, that considerable tingling of the skin, pustules full of fluid, and desquamation, followed. The same remark that Dr. Lombard makes, as to the rapidity of its action in rheumatism, is made by many of those who, at an earlier period of its introduction, employed it. Those who had suffered for years, and, indeed, were deemed incurable, are stated to have been free from pain in an incredible short time, and to have had the swellings of the joints completely dissipated.—*Lancet*, August 5th, 1837.

On Tonics. I shall point out to your notice those substances, which produce gradual, yet permanent, changes upon the system, without attempting to enter upon any consideration of the theory of their action ; for I believe it is not yet sufficiently matured ; they seem, uniformly, to act primarily upon the stomach, and hence to be conveyed to the various tissues and organs. How they influence the living principle, I am not prepared to say ; but they seem quickly to produce an increased action in the circulation, marked by a firmer state of the pulse, which is occasionally rendered more frequent. The muscular system, then, seems to derive fresh power ; the excretions become

more uniformly natural, and there is firmness given to the nervous system. From their action upon the digestive organs, it would appear that the more nearly tonic medicines approximate to the aliment which would be most easily digested, and be more decidedly nutricious, the greater the influence they possess. They should never be of a nature to produce any inordinate excitement, for the reaction, or exhaustion, that would follow upon the stimulus, would be more hurtful than any beneficial influence they could exert. It is a slow, steady, and uniform operation that is required; and the greater the delicacy of constitution for which you are called on to prescribe, the more careful must you be in the quality, quantity, and mode of preparation, of your tonic. The stage of the disease, the state of the functions, and even the season of the year, must be considered before you select your remedy. Iron, of such value in some cases, is productive of mischief if the pulse be full, if any tendency to inflammatory action is present; cinchona, or its alkali, quinine, will prove a dangerous remedy if the vessels of the brain are more than usually full, and particularly if venous retardation be present; arsenic, to which we look with such confidence in the intermittent fevers of the autumn, and in periodic affections during the winter months, is inferior in value to cinchona, or to carbonate of iron, in the spring of the year. As Foderé has justly observed, arsenic is an autumnal medicine; but it may prove deleterious in the spring. That the barks of trees should have more efficacy in the autumn, when the changes have taken place in vegetable circulation and secretion, is not, to us, a matter of much surprise; but that these substances should, in the spring, act upon the system in so marked a manner, is somewhat unaccountable; but that such is the case has been very generally observed. Some of these remedies enter into the circulation, and are capable of being detected by their usual tests; others, again, have not been discovered. Iron is soon received into the blood; and may easily be recognised; but the Peruvian bark, though it has been continued for some length of time, has not been found. Sometimes diminished susceptibility of the excretory organs follows quickly upon the use of tonics. At others, again, there is found an increased action, almost amounting to violent diarrhœa; and this is oftentimes evident upon the administration of cinchona, and seems to contraindicate its use; but this more generally occurs where proper steps have not been previously taken to remove, by gentle laxatives, any sordes that may have accumulated during the disordered action in the alimentary canal; and sometimes it is a salutary effort of nature, which, if checked, may afterwards prove an abundant source of distress and harrassment to the patient, and of difficulty and doubt to the practitioner.

One of the striking characteristics of this class of medicines is the power that some of them possess of preventing the recurrence, at fixed intervals, of particular states of the body; and from which circumstance they have acquired the quaint, but expressive, name of antiperiodics. Amongst the unexplained phenomena attendant upon the morbid conditions of the living being, is that peculiar tendency to the return of certain marked symptoms, for several days at the same hour in the day at which they at first developed themselves; thus, an anguish fever coming on daily, will almost always commence its attack very early in the morning; whilst the tertian, which recurs at an interval of about forty-eight hours, for the most part, begins at noon; and the quartan, which exhibits itself after an interval of about seventy-two hours, is generally present much later in the day.

Several of the affections of the nervous system have a strong tendency to become periodic. The painful disorders called neuralgia, epilepsy, St. Vitus' dance, or chorea, and lunacy, have their precise intermissions and their paroxysms so evident, as to have engaged, at a very early period, the attention of medical observers; but the causes that produce this singular habit of the constitution have been very uselessly sought for. That in many of the functions of the organs periodicity may be acquired, daily experience teach-

es us. · There is no difficulty in so regulating the excretions, both of the intestines and of the bladder, that the action shall only recur at expected moments; but that the whole system should be called into morbid states, as in intermittent fever, must remain a subject for inquiry and investigation. But over this striking habit, the tonics, both metallic and vegetable, exercise a peculiar influence, restraining, if taken during the intervals, the worst symptoms of the paroxysms, and gradually preventing their recurrence. It is probable that all the febrile diseases have their stated moments of aggravation; and there are few of them that do not, towards evening, exhibit a degree of exacerbation, during which tonics do mischief, even if, in the remission, they have been found serviceable; the proper time, therefore, of employing them, is of greater consequence to us than the inquiry into the causes of the periodic return.—*Ibid.* October 28th, 1837.

Sub-Carbonate of Iron in Cancer. It is chiefly in ulcerated cancer that the carbonate of iron is found serviceable, and cures of cancerous ulcers of the face, lip, nose, uterus, and other parts of the body are detailed in several of the periodical publications of the day; but the claims of the carbonate, or any preparation of iron, to the character of a specific, were after very fair examination disallowed. That in various states of ulceration wearing a very malignant and formidable aspect, this remedy is most advantageous, daily practice fully confirms; that in carcinomatous ulcerations the diseased parts very frequently acquire an aspect infinitely more healthy is also generally allowed; that we may very often, in the most unpromising cases of open cancer, obtain respite from the progress of disease, is all that we can expect from this remedy; which deserves, therefore, our attention and our knowledge of the circumstances that have yet been made known with regard to its exhibition.—*Ibid.* November 4th, 1837.

Sub-Carbonate of Iron in Tic Douloureux. In the year 1820, Mr. Hutchinson gave to the world the result of his observations on the cure of tic douloureux, for which he had administered, with very great success, the carbonate of iron. To the employment of this remedy he had been led from a reflection upon the curative powers of arsenic, which, if this deleterious agency was not such that it cannot be pushed beyond a certain quantity, would be more frequently administered, and with every probability of uniform success. He was led to inquire whether some mineral, possessing nearly the same action upon the system, without producing its noxious influence, might not be found in carbouate of iron; and his expectations of good results were increased by its utility in many diseases arising from debility and a want of a proper action in the digestive organs. He enters, in the work he published, upon the history of this agonizing malady, and discusses the measures that had been fruitlessly taken for its cure. He then brings before his readers six cases in which the iron had been found efficacious. The preparation which he has found serviceable, under different states of the constitution, and various periods of its duration, is this medicine, in doses of two scruples, or even a drachm, repeated two or three times a day; and he adds, that used to this extent, it removes several other affections over which it had been supposed to exert no power. Since the period at which Mr. Hutchinson gave his useful observations to the public, the carbonate of iron has been very largely tried by the profession, and occasionally with the happiest results.

You will read, in the Lancet for 1832, a letter from Dr. Hutchinson. physician to the General Hospital near Nottingham, which he thought it necessary to write in consequence of a clinical lecture delivered by Dr. Elliotson, on the subject of neuralgia, in which he imagined the learned professor discourages the employment of the medicine. In this letter he says—"Ninety eight unquestionable cases of tic douloureux, the full reports of which I have

now before me, many occurring in the practice of my late father and myself, and others reported to us by medical practitioners of the highest respectability and attainments, all of which were cured by the use of the carbonate of iron, most after the persevering employment of other remedies, distinctly prove the fact that the disease is generally not only susceptible of alleviation, but that it may usually be cured." The cases to which he alludes are the result of the successful application of this remedy.

Dr. Elliotson's observations are practical, and will, I think, be assented to by all those who have tried the carbonate of iron. It is "one of the best remedies in this disease, but by no means a specific, and by no means so successful, I think, as in some other nervous complaints." The case which called for the observations of Dr. Elliotson, is one of peculiar interest. You will find it in the Lancet, of December 8th, 1832.—*Ibid.*

On the Therapeutic Properties of the Tinctura Ferri Sesquichloridi. This medicine is found in our earliest pharmacopœias under the name of tinctura martis in spiritu salis marini, and was a great favorite amongst the physicians of former days, and was ranked in the dispensatories "as preferable to the calces and croci of iron, being both more certain and more speedy in its effects." As a tonic, where the digestive organs, have become impaired, either from disordered function of the stomach, in assimilation, or from diminished power of excretion from the intestinal canal, it is much to be commended. Where much debility, arising from loss of appetite dependent upon such causes occurs, a few drops of the liquid taken in a glass of soda water for a few successive days, invigorates the system, raises the spirits, and improves the general health in a very striking manner. In females the effect of this preparation of iron is much more remarkable than in man. It seems to be particularly adapted to them in many of those states in which a deficiency of menstrual excretion, or irregularity of appearance occurs. Whilst it promotes this function, it is also serviceable in restraining hæmorrhage from the womb, although it has been supposed to be contraindicated, from its possessing the power of acting as an emmenagogue; whenever, in such cases, it produces flushed cheek; dry lips, white tongue, and tendency to cephalalgia, it must for a time be discontinued, and again had recourse to after aperients, as castor oil and the neutral salts. Twelve or fifteen drops taken daily, three times a day, largely diffused in water, will be quite sufficient; soda water, notwithstanding a decomposition occurs, is by far the most agreeable mode of administering it, if given not more than once in in the day. It is not generally to be prescribed in combination with the alkalies, nor with their carbonates, nor with the carbonate of lime, or of magnesia, nor should it be added to any infusion of the vegetable tonics which possess an astringent principle, as it renders it of a black color. It is decomposed by a solution of gum arabic. Mr. Cline first recommended it, in the course of his lectures, in retention of urine arising from spasm at the neck of the bladder, and since that time it has been very generally administered in the dose of ten minims every ten minutes, until some relief is afforded, and generally this is preceded by a slight nausea. In states of irritation of the bladder during gonorrhœa, when the excretion of water is attended with great pain and suffering, a similar dose, more particularly if a few drops of laudanum, or of tincture of hyoscyamus be premised, will be found most materially to allay the excitement.

It has not been detected in the urine after being thus taken, but, as is the case with the other preparations of iron, it tinges the fæces black. In painful micturition it is best given in warm water, and a warm bath likewise facilitates its operation. In a case related by Dr. Collins, of Swansea, where opium, conium, and the warm bath had failed to give relief, five minims were given every six minutes; after the third or fourth dose a cessation of the suffering occurred, and in less than half an hour water passed without

any pain. Two days after this state recurred, and opium and conium again failed, but the tincture succeeded, about one hundred and thirty drops having been given before complete relief was afforded! A communication appears in a volume of the Lancet, from Mr. Hancorn, surgeon, at Sheerness, from which it seems that this remedy was, in his hands, very successful in the cure of cholera. He alternated it with doses of soda; it speedily acted as a diuretic, and the evacuated fluid was black. Six cases were thus cured, and three medical men were witnesses to the success of this treatment. Nitrate of iron had been recommended by Mr. Kerr to remove slight diarrhœas, which were apt to terminate in cholera; and many patients, whose bowels are easily affected, adopted the precaution of using this prophylactic.

I think, that should the cholera become prevalent again in this country, or should an opportunity present itself elsewhere, the powers of the salts of iron in controlling the disease, should be thoroughly investigated. The discovery of Professor Ramoglia, of Naples, of the presence of a rare species of worm, imbedded in a quantity of viscid mucus in the intestines, and the fact that an extraordinary epidemic, marked by the presence of worms, was coexistent with the appearance of cholera in that city, are points that excite considerable interest, and may lead to inquiries which may throw some light on the subject. It has been observed, that those who drank spirits during the presence of an epidemic diarrhœa, were more subject to its attacks than those who drank porter and ale. All beer must be more or less chalybeate. Malt contains iron as an ingredient, which, during the process of fermentation, is taken up as a carbonate by the water. Beside which, the nails of the hoops of the vessels, and the use of iron tubes and cans in the cellar, add to the quantity of the metal, as was proved in a revenue prosecution; and its presence may be shown by the red prussiate of potash. That beer is occasionally adulterated by iron, judicial investigations have proved, but the accidental impregnation cannot be avoided, and may occasionally, as where worms exist in the intestinal canal, be rather useful than prejudicial.

I believe in every case in which chalybeates are required, the tincture of the muriate of iron may, with every anticipation of perfect success, be employed. It is also occasionally used externally, and its styptic powers are considerable in various hæmorrhages. The bleeding from leech bites is almost instantaneously checked by it. It has been said to be the basis of Ruspini's astringent, which is the most efficacious of its kind. Warts are often destroyed by it.—*Ibid.*

On the Properties and Uses of Calomel. Calomel possesses medicinal powers of the most important kind; it is a moderate laxative when given alone, and when employed in combination with other drugs it becomes an active purgative. It has been classed by the authors on materia medica as a sialagogue, as an expectorant, as a cathartic, as an emmenagogue, as an alterative, and as a tonic; and no remedy with which I am acquainted has been more largely employed in the greater number of diseases. Indeed, I need only refer you to the "Thesaurus Medicaminum," or the "Practical Synopsis" of John Pearson, that you may judge of the estimation in which it has been held, from the long catalogue you will there find of disordered states in which it has been prescribed by medical men. Its doses have varied in the most extraordinary manner; and looking over medical writings, you will be surprised at the great discrepancy of opinion upon the quantity to be employed; yet from the most experienced practitioners, I think you will draw the inference, that in the greatest number of cases, where your object is to produce a gentle, but at the same time serviceable, action on the bowels, three grains will suffice. A less dose causes irritation in the alimentary canal, and, without some other medicine be employed, a quantity of biliary secretion is produced, which remains in the system, rather harassing than in any way benefitting the individual's case. In a dose of five grains the chlo-

ride of mercury may generally be looked upon as exciting a degree of irritation in this country; yet some of our most distinguished medical men have in India, not only harmlessly, but with considerable advantage, administered scruple doses, three or four times in the course of the day. I would have you read with attention the works of Dr. James Johnson, on "Tropical Climates," and Annesley on the "Diseases of India," for further illustration of this subject. Unacquainted as we are with some of the frightful maladies of the East, which so rapidly run their career we cannot properly estimate the value of the practice, but from the concurrent testimony of practitioners, who almost unanimously agree upon the excellence of the principle of giving very large doses, until an immense quantity must have been collected in the intestinal canal. This plan of treatment has been attempted to be introduced into this country, but it has not met with much encouragement. In the United States, however, the practitioners have even surpassed our bretheren in India; they have given one, two, or three drachms, for bilious fever, three or four times daily, for successive days. In one of the American journals is a case in which eight hundred and forty grains were admistered in the course of eight days; the largest dose was three drachms, and even then no evacuation was produced until an injection had been given.

The great success that attend these doses in tropical dysentery is evident from works and from the cases of various authers related in the different periodicals. Thus Mr. Power's cases in the third volume of the "Medico-Chirurgical Review," are very instructive. Scruple doses were given three time a day, in nine instances; no other mode of treatment was pursued except in one instance, where venesection was had recourse to; a quarter of a grain of opium was generally added. The calomel in a short time brought on ptyalism without hypercatharsis, or any distressing symptom supervening; on the contrary, it seemed to have rather a cooling and sedative influence.

I wish you to recognise the distinction that has been universally acknowledged between laxative and purgative medicines, the first of which merely empty the bowels of such fæcal contents as may already be lodged there, whilst the second class has the power of inducing a still further increase of the quantity, and of stimulating the vessels to pour forth more excrementitious matter. Now the chloride of mercury will, according to the dose in which it may be given, produce either of these effects, but it is the biliary secretion that is most augmented, and this is particularly marked by an alteration in the colour and the odour of the fæces.

All the preparations of mercury more or less, have this influence, and patients who have, for a length of time, excreted only blackish and unhealthy looking dejections, discharge them of a yellow hue and of a different odour after a few grains of calomel or of blue pill. The odour is oftentimes rendered more disagreeable, and a change takes place in the gases that are developed. The colour depends upon the kind and quality of the bile secreted by the liver; and where any obstruction takes place, the stools are pale or whitish. The bile itself is of a deep yellow brown colour, and, as Abernethy has observed, it is like wetted rhubarb; if either of the substances be put into a large quantity of water. they will dye it of a bright yellow colour, which is actually the colour of these substances, yet it is so concentrated in the mass as to appear of a deep brown. Green bile is ordinarily the result of disordered function, although it has been occasionally found in the gall-bladder, where the liver is in a perfectly healthy state. Vegetables frequently give their colour to the fæces. The peculiar fætor of the residue of the alimentary matter is acquired in the large intestines; and if the small intestines at their termination, and the large intestines at their begining, be examined, there will be found almost a line of demarcation; to what this is owing we are at a loss to say. It is not alone a chemical decomposition that occurs, but the animal economy imparts a peculiar change.

The chloride of mercury appears to exercise over the action of the large

intestines some power, as the gaseous exhalation materially differ when it has been employed, and this is particularly striking in children, the odour of the dejections being very materially influenced in them, and much more offensive fætor being the result, and this, in general, is a proof of the due action of the medicine, for the system, previously disordered, appears thus to rid itself of a deleterious agent.

Where the chloride of mercury is too irritating alone, it may very properly be combined with other remedies, and there is a pill which has long been known to the profession under the name of Plummer's pill, which has been found a useful medicine.—*Lancet*, Decembep 2, 1837.

On the effects of Blue Pill. The blue pill has been long much celebrated and is one of the most popular remedies of the day in the dose of four or five grains. Its high estimation, it chiefly owes to the work of the late Mr. Abernethy, entitled "Surgical observatiens on the Constitutional Treatment of Local Diseases," and likewise to the practice he pursued, and the precepts he inculcated amongst a large portion of the students of medicine, who are now in the full zenith of their honourable career.

Mr. Abernethy's mode of pursuing his mercurial course was cautious and regular. He prescribed only small doses, taking care that the error so often fallen into, of increasing the quantity, when any benefit was perceptible, should be avoided. Nothing can be more injudicious than the augmentation of the quantity of this medicine without sufficient reason. In small doses the biliary secretion is corrected, and the digestive organs are placed in a healthier condition; larger quantities exert an influence on the whole constitution, and alter the state of the nervous system; thus controlling diseases dependent on an irritable and disturbed state of the nervous function; but, in still larger quantities, it never fails to irritate and weaken the system, and thus to derange the digestive organs. Five grains of blue pill, taken at night, will not irritate the bowels, but, generally the mouth becomes affected, with a very few night's repetition of the dose, but this often depends upon the badness of the blue pill, for a very small quantity of sulphuric acid, in the conserve of roses, will materially affect the preparation, and produce very bad consequences. It happens that whilst the secretions from the liver are materially improved, as the excretions testify, that dyspeptic symtoms supervene; in such cases the blue pill is to be discontinued, and again had recourse to at a future time. Calomel, in a very small quantity will often be the source of high irritation, where blue pill is indicated, but, as I shall have occasion to state to you, the powers of calomel, when properly administered, are essentially necessary to be trusted to.

The functions of the skin are often impaired in consequence of a disordered state of the digestive system, and these are restored to their wonted state by this remedy; the operations of the mind are enfeebled from similar causes; hence hypochondriasis, disorders of the absorbent glands, malignant tumours, and ulcerated sores, are relieved and cured, when they are connected with such disorders of the digestive organs as are remedied by the therapeutic agent which I have considered. Every system of practice is not only likely to be too much extolled, but it is also liable to be followed with too sanguine expectations, and to be pushed to a greater extent than the original founder intended, and doubtless this has been the case with the blue pill. It is capable of producing much mischief; its abuse is as formidable a cause of disease as its proper employment is certain of being a source of health. It is not any one plan, or any one particular remedy, that can be relied on, in all the complicated maladies of our nature, but there are unerring principles which are to guide us in our practice; there are certain effects produced upon the human economy by certain agents, and a knowledge of the influence of each must teach us not to circumscribe our list of remedies, nor to place undue reliance upon any drug, however powerful it may prove.

From want of such a reflection, the blue pill has been too often indiscriminately employed, and has become the source of mischief, as I shall have occasion to state to you.—*Ibid.* Nov. 11.

Influence of the Weather on the action of Mercury. It is always of very considrable importance to pay attention to the state of the weather, both as to the prevalence of disease, and as to the proper period at which remedies are to be administered. * * * During fine clear weather the preparations of mercury seldom affect the bowels, nor do they produce that depression of spirits, which is so often observed to accompany their use during damp moist weather. * * * During moist states of the weather mercurial preparations should be sparingly prescribed; and when, from the diseased state of the system, they cannot be dispensed with, great attention is to be paid to the clothing. To every one in damp, moist conditions of the atmosphere, flannel is a great comfort, but silk is the most useful covering to the body. * * * Patients, therefore, during the mercurial influence are much better wrapped in silk than even when confined to bed; but this latter precaution can more generally be taken, and hence the different preparations are always best administered on the invalid retiring to bed, and he should be kept there until the effects have been produced; this is more especially the case with calomel. As much mischief has arisen from the want of proper precaution, as from large doses; and the habit of the individual is always to be duly weighed and considered. Females of a delicate, nervous, irritable frame, are rendered languid, peevish, incapable of fulfilling their usual duties; they feel chilly, they easily shed tears, are sometimes almost hysterical; and though they have no actual suffering to endure, are almost as miserable as if they had it to encounter. On the other hand, the stout, robust, plethoric individual, who probably has to bear very great pain, from the nature of the disease, seems quite insensible to any unwonted effect; it, however, more generally acts upon such a constitution with greater energy, and leaves behind it a more decided state of debility, if it be persevered in for any length of time, or if it be often repeated. The inhabitants of this country are very little influenced by it, comparatively speaking, from their being so much habituated to the changes of climate; but the foreigner is not so fortunate, nor can he bear a dose which in his native air, he could take with impunity. Indeed, they have a horror of blue pill and of calomel; and I certainly have witnessed their greater incapability of bearing it here than in their own climate. I have had opportunities of comparing these points—I have seen the practice on the Continent, and I held the station of physician to the King's Theatre, under the administration of Mr. Ebers, for three or four years, and I was uniformly struck with the singular change that climate and habits of life produced upon the effects and operation of medicine. Those who could bear well full doses under ordinary circumstances, could not submit to much smaller ones here, nor could they bear in any shape or form, the administration of mercury.

The annals of practice in India, likewise show that doses of mercurial preparations are very much influenced by a dry climate. Some very highly intelligent men there have prescribed quantities, and their repetitions which, in our moist and uncertain atmosphere, would very quickly injure the constitution, and leave it in a state to be acted upon by every morbid exciting cause that might present itself. Whether all this is to be attributed to electric states of individuals, or of the atmosphere, remains to be explained. Some of the phenomena which are observed demand further inquiry; nor do I know that they have undergone much investigation.—*Ibid.* Nov. 25.

Injuries of the Wrist.

The following observations of Dr. Barton are of much interest, as they relate to a kind of ease, of which little has been said; but which is of frequent occurrence, and for which too little has been done. We have observed this most frequently in elderly ladies, and resulting from falls by which the wrist is most easily injured. Either the inactivity, or the greater delicacy, or both, which is common with that portion of the community, may contribute to the greater frequency of its occurrence with them. It is not very uncommon to find both wrists of elderly ladies of industrious, active habits, afflicted in the manner alluded to; and he who contributes any thing to the relief of this injury, renders a very important service to humanity.

Views and treatment of an important Injury of the Wrist. By J. Rhea Barton, M. D.—Any further observations on a class of accidents, so common, and which have been so often the subject of inquiry, as that of injuries of the forearm and wrist-joints, may be deemed superfluous by those who read, but have no personal experience in surgery. But to those engaged in the active pursuits of our profession, it is well known that, notwithstanding the volumes that have been written on this subject, there yet are certain injuries involving these parts which are not fully understood, and consequently not successfully treated.

My attention was early fixed upon such cases, and through a series of years they have been particularly interesting to me; and it is my firm conviction that, up to this time, error prevails, both as to the nature and the treatment of them, that I am induced to publish my views and practice therein.

I do not know any subject on which I have been more frequently consulted than on deformities, rigid joints, inflexible finger, loss of the pronating and supinating motions, and on neuralgic complaints resulting from injuries of the wrist, and of the carpal extremity of the forearm—one or more of these evils having been left, not merely as a temporary inconvenience, but as a permanent consequence.

The accidents which are to be the principal subject of my remarks, usually pass either for sprains or dislocations of the wrist. Under one of these denominations, are these cases to be detected, which, though partaking somewhat of the character of sprains or dislocations, are distinguishable from either of them respectively. They may be recognized by their being accompanied by more distortion of the hand and arm than any which can arise from simple sprains of the wrist, and yet less than that which must necessarily take place when there exists a complete luxation of the carpus. The profile of the limb under this injury is a peculiar one, distinguishing it on the one hand from the sprained wrist, and on the other from luxation.

A nice discrimination between these and the other varieties of accidents, is not a mere matter of useless refinement in diagnosis; but it is one of great practical importance, as is confirmed by the number of persons who have never fully recovered from the effects of accidents of this nature, treated without such discrimination.

In simple sprains of the wrist, though accompanied by extreme swelling, the limb will still be found to retain a characteristic outline of its natural contour. It is not marked by any abrupt and solid eminences, the swelling is rather uniform, diffuse and puffy, the hand continues on the same line with that of the forearm, &c. In complete dislocations, the nature of the injury must always be very palpable from the great bulging of the over-

lapped bones, and from the shortening of the limb, &c. Between these two injuries there is too great a dissimilarity to admit of an excuse for the surgeon who mistakes the one for the other; but he may confound with these, and it is a common fault to do so, *a sub-luxation of the wrist, consequent to a fracture through the articular surface of the carpal extremity of the radius;* although to this accident belong appearances exclusively its own.

It is to this peculiar injury that I wish to draw attention.

It is one of the most common injuries to which the upper extremities are subjected; and every practitioner of moderate experience will, I am sure, be able to call to his recollection the appearance which the limb presents under such circumstances, as well as the embarrassment which he has experienced in his attempts to obviate eventual deformity, to preserve the functions of the fingers, and to restore the motions of the wrist and forearm.

The similarity of manner in which this accident generally occurs, is striking. It is almost always found to have taken place in consequence of the individual having thrown out his hand to rescue himself from falling, or to ward off injuries threatening a more important part of the body. In the act of falling, for example, the hand is thus instinctively thrown out, and the force of the fall is first met by the palm of the hand, which is violently bent backward until the bones of the wrist are driven against the dorsal edge of the articulating surface of the radius, which, being unable to resist, it gives way. A fragment is thus broken off from the margin of the articular surface of this bone, and is carried up, before the carpal bones, and rested upon the dorsal side of the radius; they having been forced from their position, either by the violence, or by the contraction of the muscles alone. We have then an imperfect luxation of the wrist, depending on a fracture through the extremity of the radius. The deformity will be found to correspond with this state of the case. There is a tumor on the dorsal side of the arm formed by the bulging of the carpal bones and fragments; whilst below it, on the palmer side, the extremity of the radius projects. The degree of prominence of these parts, depends upon the size of the fragment and the violence of the injuring force. The ulna not being very intimately involved in the injury, retains its position, and serves as an abutment, against which the hand seems to rest; whilst the radius, as it has its edge broken off, allows the hand on that side to be drawn upward, and hence to render, on the under side, the styloid process of the ulna more conspicuous than natural. Crepitus cannot always be felt, sometimes in consequence of the smallness or crushed condition of the fragment; at other times, owing to the great swelling and tension; but in every such case, the distortions of the limb are to be seen, and may be removed by making firm extension and counter-extension from the hand and elbow, at the same time gently depressing the tumors already spoken of. By the employment of these means, all deformity, except that which evidently depends upon the more general swelling, may be satisfactorily removed; but the moment the extension and counter-extension are relaxed, the combined action of the flexors and extensors of the fingers, as well as those of the wrist, force the deformity to re-appear as conspicuously as before: and as often as the effort is renewed and discontinued, will the deformity appear and disappear. In this respect does this species of injury in an especial manner differ from a complete simple luxation of the wrist; which, when once reduced, must continue so after the reducing force has been withdrawn. There is no spontaneous reluxation after the simple complete dislocation has been removed; whereas, in this case it immediately succeeds the withdrawal of the force. This accident must not be confounded with those which are also of frequent occurrence, namely, fracture of the radius, or of the radius and ulna just above, and not involving the joint. It will be found on referring to the writings of Boyer, Desault, Sir Astley Cooper, Dupuytren, and many others, that this frequently happens, and that the fracture often reaches to within a few lines of the extrem-

ity of the bone ; and that these cases are very frequently mistaken for dislocations, though they are in reality fractures exterior to and disconnected with the joint ; the deceptive deformity being occasioned by the displacement of the broken ends of the bone caused by the action of the muscles and the weight of the hand. A very good illustration of such cases may be found in plate 12, figure 1, in Mr. Hind's folio work on fractures of the extremities. It may there be seen how powerfully the flexors and extensors act in retracting the inferior portions of the bones, and how closely the radius and ulna are drawn together through the instrumentality of the pronator quadratus muscle below, whilst towards the brachius the pronator teres is exerting its power to keep the limb in a state of pronation. Now these are consequences which do not result from the species of injury to which I refer. The fragment may be, and usually is, quite small, and is broken from the end of the radius on the dorsal side, and through the cartilaginous face of it, and necessarily into the joint. The pronator quadratus is not involved in the fracture. The radius and ulna are not materially disturbed in their relations to each other. The only important change, which takes place in consequence of this fracture is, that the concave surface at the extremity of the radius, which receives and articulates with the three first carpal bones, is converted, as it were, into an oblique surface by the loss of a portion of its marginal ridge ; commonly by the separation of an entire piece ; sometimes by the crushing of its substance. The moment the cartilaginous extremity of the radius is deprived of its concave form, the united force of the carpal and digital flexors and extensors is exerted to create a complete luxation ; but as the ligaments are only stretched, or but partially torn, this cannot take place. The carpal bones, therefore, only emerge collectively from their natural position, and carrying before them the broken piece, rest on the dorsal side of the radius, forming a tumor there ; whilst the end of the radius itself occasions on the palmer side a prominence which is round and smooth, and differing in this from similar projections formed by the fractured ends of bones, the abruptness and harshness of which may sometimes be distinctly felt through the soft parts, and which are themselves, when pressed upon, acutely painful.

It follows, in injuries of this kind, that unless some method of dressing be adopted whereby the retraction of the hand may be permanently counteracted, and prominences repressed, the patient will recover with a crooked arm, and under a sacrifice of some of the functions of the hand. The customary modes of treating either sprains or dislocations of the wrist, or fracture of the forearm, are totally inadequate to the purpose, and should not be relied on as a treatment for these particular cases by any practitioner who has regard for the welfare of his patient, and for his own reputation. There is no professional point upon which I can more confidently express myself, than upon the errors committed in the treatment of these cases,--passing, as they commonly do, for sprains of the wrist and hence treated as such. After an unvarying success in the management of this accident for many years in the Pennsylvania Hospital, in the Blockley Hospital, and in private practice, I can strongly recommend the following plan of treatment: Two thin, but firm splints of wood, are to be prepared, of sufficient length to extend from just below the condyles of the os humeri to the ends of the fingers, and of width enough to embrace the sides of the limb. These are to be lined on one of the sides with carded cotton, or something equally soft, and wrapped with a bandage. Two compresses, each about two inches square, and composed of strips of bandage, about one yard and a half long, evenly folded up, are also to be in readiness. The arm is then to be flexed at the elbow, and one assistant is to hold it firmly above the condyles, whilst another makes extension from the fingers. The surgeon now presses the prominent end of the radius on the inner side, and the bulging carpus and fragment on the outer side, into their respective places. The roller is then to be lightly pressed

around the hand and arm, securing in its course up the limb one of the compresses precisely over the carpus and back of the hand—the other with equal precision over the palmar side of the radius just above its carpal extremity. These compresses, when properly arranged, will be found *not opposite to each other, but the inner one commencing on a line opposite to that on which the outer one has terminated.* These being applied, the inner splint is next placed against the limb,—the assistant shifting his hand to admit of this being done without his relaxing in the least degree the extension until the limb is bandaged to this splint, when it will be found that the extension is well maintained. The outer splint is now to be applied and secured to the arm by the return of the roller. The principal use of the latter splint is to act upon the outer compress, and by its general pressure to weaken for the time the force of the resisting muscles. By the employment of these simple means, the indications in the treatment of this accident will be found to be fully met. The arm may be carried in a sling, and the patient permitted to walk about, &c. In three or four days the limb should be undressed and inspected; and whilst held so that relaxation cannot take place, the wrist and fingers are to be bent enough to preserve the flexibility of the joints. The dressings are then to be re-applied. These operations are thenceforward, for four or five weeks, to be repeated every day, adding to them the motions of pronation and supination.

The practice of keeping, a limb in splints, with the joints in an immoveable state for weeks, even when the fracture is remote from the articulation, cannot be too earnestly; deprecated; and in cases where the injury to be repaired has involved a joint, such treatment is censurable to a high degree, as it is almost certain to destroy the mobility of it by promoting the adhesion of ligaments, the union of tendons with their thecæ, and by obliterating bursæ—evils never to be fully repaired.

So prevalent is the error on this point, and so serious are the results of such practice, that I have settled my mind to the belief, that in very many cases of fractures the imperfect recovery of the patient is owing to the injudicious use of splints and bandages, rather than to the complication or original difficulty of the case. For the interruption of adhesions of the ligaments, for insuring a continuance of the muscular power and offices of the tendons, and for the entire preservation of the motions of joins, it is indispensably necessary that these parts should be put into action frequently during the treatment of a fracture, in which they are interested, either from the adjacency of the fracture, or from their confinement by the splints necessarily used on the occasion. The movement of those parts by the surgeon at stated periods, is not at all incompatible with the quietude and the progressive re-union of the bone itself. The omission of this duty arises, I am persuaded, out of our knowledge of the necessity of securing rest to a broken bone, without at the same time considering that by the means we employ, and the course we pursue to accomplish it, we may entail upon our patient a calamity quite as deplorable as that of an ununited fracture or a crooked bone —namely, a stiff and useless limb. The surgeon, then, is to recollect, that in the cases made herein the special subject of notice, he has not only the duty to perform of obviating deformity of the limb, but of preserving the free motions of all the other parts, and that this can be accomplished only by daily trials of their freedom and functions.

By an adherence to the plan of treatment just recommended, and by an attentive pursuance of the means spoken of to preserve the functions of the limb, I have uniformly succeeded in restoring perfectly the arm to its natural shape and offices. I can, consequently, on just grounds, advise others to adopt the same practice.

It sometimes happens, also, though rarely, that fracture of a similiar character to the one just described, occurs *on the palmer side* of the radius, from the application of force against the back of the hand whilst it is bent

forward to its ultimate degree. This usually happens in awkward attempts to parry the blow of a fist, from pressure in dense crowds, and from falling on the back of the hand whilst it is bent forward. Whenever the fracture takes place in front, the end of the radius projects over the wrist on the dorsal side, and the carpal bones and fragment rise out of their proper situations, and form the tumour on the palmar side, thus reversing the deformity of the arm. The principle in the treatment of this variety of the injury, is the same as in the foregoing.

Dupuytren used to trace an analogy between the ordinary fracture of the lower end of the radius, and fracture of the lower end of the fibula; and as he had founded a very successful method of treating the latter injury from the view he took of such cases, he extended his analogy to the treatment of the former by means and apparatus designed to accomplish the same ends. How far the practice may be successful when applied to the cases for which the practice was specially intended, I cannot say. Having myself found simpler means attended with success, I never adopted his practice; but for the treatment of fracture through the joint,&c. the practice would be unavailing. Neither is there any resemblance of this injury to the fracture of the fibula. It may be, however, not inaptly compared to the partial luxation of the foot, depending on fracture of the internal malleolar process of the tibia, including a portion of the articular face of the bone—an accident well known to surgeons. *Medical Examiner.*

Part III.—MONTHLY PERISCOPE.

Medical Society of Augusta—Session, 10th February, 1839.

Question for discussion,

"Are there any signs or symptoms by which worms can be inferred certainly to exist in the alimentary canal; and if there be, what are they?"

Dr. P. F. Eve was the essayist, and read the essay on that subject, which is found in part first of the present number.

The discussion then ensued, in substance, as follows:

Dr. Dugas said he proposed the question now before the Society, because almost every case of infantile disease is referred to worms, to which prejudice, he conceived, a large number of deaths were attributable—mothers being led thereby to trust to their treatment for worms or for teething, according to age, &c. In consequence, the gums are cut, and the little sufferer is dosed liberally with spirits of turpentine, and other vermifuges. He had, therefore, called the Society's attention to the subject, with the hope of putting down the prejudice. He considered the case recorded by Dr. E. A. Eve, and read by the essayist, as highly interesting, but its value was necessarily much curtailed by the want of further pathological anatomy. Dr. D. concluded by

observing, that the essay was so full and complete a description of the subject, that there was no room for further remark.

Dr. Bowen said he was with Dr. Dugas. He approved of the essay, as well supporting the truth. There may, he said, be irritation, with, or without worms; and no man can distinguish from which source the irritation arises. He gave a case in point—it was of a man laboring under symptoms of dyspepsia. Dr. B. then gave the following case—A negro girl, six years old, was treated by a respectable physician of Columbia County, with fifteen drops of wormseed oil, three times a day, followed by large doses of calomel. The attending physician being one day absent, Dr. B. was called, and found tympany to great extent. He gave castor oil, which operated copiously, and reduced somewhat the distension; but no worms passed, and death ensued; after which, upwards of sixty were found in the alimentary canal, and three had passed into the abdominal cavity. No spasms occurred in this case.

Dr. Robertson rose, he said, merely to concur in the general sentiment, that there was no certain diagnostic, more than that of their actual passage. He was not only certain that there is no sure diagnostic, but that, if there were, there is no certain treatment in the event of a good diagnosis. He, therefore, treats the symptoms which occur in these cases on general principles, and with general success. Afterwards, sometimes, a few worms pass. He has observed large numbers come away without either previous symptoms of their presence, or treatment; whilst it is often the case that, with the strongest symptoms, none can be obtained. He thinks they depend on an unhealthy state of the digestive apparatus, and consequently, the best treatment is to restore the general health; which plan, he thinks, will succeed nine times out of ten. He stated a case wherein he used syrup of Stillingia Sylvatica for Porrigo Scutellaria; and a large number of lumbricales were produced. Dr. R. then referred to the case given by Dr. Bowen, in which three worms were found in the peritoneal cavity. He considered, that in this case, disease had run its course, and the worms had gone through the openings formed by other disease.

Dr. Dugas differed from Dr. Robertson, in thinking that worms are to be traced to a morbid condition of the canal, or of the digestion; and thinks that opinion conflicts with facts; because large numbers of persons presenting *no symptoms* of disease, pass great quantities of worms; whilst others, habitually diseased, never pass them. Again, he said, worms are most commonly generated at a certain early age, and not usually in adults; and with them, not under appearance of disease, but under the best aspects of health and good digestion, and vice versa. He concluded, therefore, that they are *not* the result of disease.

Dr. Bowen accorded with Dr. D., for worms are as commonly met with in healthy, as in unhealthy regions—children in the most healthy places, passing large quantities, without sickness. He considered them the *cause* instead of the consequence of intestinal irritation.

Dr. Robertson declined the explicit belief that worms originate from disease, but merely gave the opinion of some authors on this subject. But he was not disposed to retract any thing he had said, and referred to the investigations of some writers which served to prove the fact that they originate from disease of the intestines or the collateral viscera; and urged the point that functions and secretions may become disordered, as well as other effects from secretions thus disordered; and on this ground the opinion of those writers cannot be condemned. He denied that the majority of cases are in children, in proportion to their relative number; but if it be the case, it is because adults enjoy a greater immunity from disease. Some seasons, he remarked, worms are more common, and many children are often complaining, but are not noticed. He then referred to Dr. E. A. Eve's case, in which the woman ate dirt; and to the greater frequency of worms in cases of dirt eaters.

(Quere—Is this, effect, or cause?)

Dr. E. LeRoy Antony believed that there is no certain diagnostic; but looks on the cases as intestinal irritation, and considered worms as a very common cause of that irritation, especially in children. He did not believe they arose from irritation or disordered secretions, but that they were more probably the products of a kind of fermentative process, because this is known to produce verminous insects of different kinds out of the body. He thought proper to refer to Dr. Bowen's observation, of spasms produced by Spigelia. He could not conceive how Spigelia produced spasms in the case, with dilated pupils.

Dr. Bowen stated that children were often treated for the intestinal symptoms and recovered, and passed the worms sometime after.

Dr. P. F. Eve thought that worms were introduced by animalculæ or ova—and then multiplied rapidly. When generated, they produce irritation in the alimentary canal. Disease is, therefore, *effect*, and not *cause*. He was of opinion, that Dr. E. A. Eve's case died from peritonitis.

Dr. Dugas declared his firm belief, that animals do not generate spontaneously; but that they are produced by eggs, as in botts, which in spring, and in summer and autumn are passed off in chrysalis form. He therefore concluded, that at certain times, children carry into the alimentary canal, ova or animalculæ, which multiply—hence their greater frequency in some seasons.

Dr. E. LeRoy Antony did not believe that peritonitis is always the cause of death in these cases; because this (peritonitis) must have a certain time more than is often allowed in the case. He considered that death in these cases is often, perhaps generally owing to injuries suffered by the nervous tissue—hence the opisthotonos in Dr. E. A. Eve's case. He thought the botts had been well accounted for, but inquired how gentlemen would account for worms in the middle of a nut, as a chesnut for example?

Dr. Dugas replied that the punctures were made when the nut was in its early stage, but growth obliterated the aperture.

Dr. M. Antony's opinion accorded with that of the gentleman who had gone before him, that there was no absolute diagnostic of worms in the first passages, generally available for practical purposes, which, he apprehended, was the object of the enquiry before the Society. He differed, however, with some sentiments which had been offered in the course of the evening—particularly that of worms being the *effect* instead of the *cause* of disease, and of their inocuous tendencies in the intestinal canal; for although he had often found them remain inocuous for a length of time, and notwithstanding the difficulty, and often the impossibility of distinguishing the symptoms from those of other mechanical and chemical irritants, still he considered them so frequently the cause of intestinal, vascular, or nervous irritation, and so suddenly destructive was their tendencies in other cases, that he conceived that good was done by the empirical practice used by the common people, of treating all suspected cases for worms; and he knew no better plan for the use of those who had no medical judgment. He knew them to be so ample a cause of some of the most dangerous diseases, that he thought it the less of the two evils, to treat suspected cases for worms, at the risk of its inefficacy, rather than delay for the development of other causes. At any rate, he considered it far more prudent to treat cases, the symptoms of which render it probable that they are worm cases, with vermifuges, than to omit their use; not only on account of the real probability of worms in such cases, but likewise on account of the often immediate dangers of neglecting those offending causes, as he knows them to be. The idea of their being *effects* of disease, is calculated to, and often does, lead to a passive course of treatment relative to them; but he considered it limited reasoning on the case to allow that idea this influence, even were it correct: for, whether *effects* or *causes* of some morbid phenomena, they are not the less calculated to be causes of others, and of some which are so severe and rapid in their course, as to preclude the hope of remedy. Such, particularly, were those cases where perpetual convulsions were produced, which often ter-

minate only in death. [Such, also, were those cases of violent convulsions which terminate in a profound apoplexy, followed by death; and which are not unfrequent with children of such conformation and habit as to favor apoplexy. It would, he considered, be easily seen, that, under such circumstances, besides the doubt of their sufficiency for correcting these conditions, the very administration of most remedial means is precluded. Such, also, were those cases in which mechanical injuries of the intestines are effected by worms, and such injuries thus arising are now beyond controversy; pathological anatomy establishes abundantly this fact. He would give a case: A girl, sixteen years old, was left by a travelling party under his care. She had been sick for many days, but no accurate history of her case could be obtained. He found her very torpid and lethargic—comatose, pulse small and quick, and not very much increased in frequency—skin dry, with diarrhœa, and very considerable emaciation—tongue clean and red—abdomen tympanitic. He administered vermifuges only, by which, during the first day, two large lumbricales were evacuated. Next day the girl died. On examination of the abdominal viscera, no mark of disease was observable, except two perforations through the whole of the coats of the intestines, about the size of, and much resembling, buck-shot holes. Much engorgement was found about the wounds, and extended from each, six or eight inches, up and down the intestinal tube, affording a grumous and bloody aspect, beyond which, it vanished into a moderately increased vascularity of the canal, diminishing in degree in proportion to the distance from the wounds. Here it would be preposterous to conclude, as had been supposed, and may, for aught we know, have been the case with Dr. E. A. Eve's case, that other primary disease had run its course and caused ulcerations. These openings were not of the character of ulcerations produced in the progress of typhoid fevers, but were evidently recent wounds, as proved by their appearance in every respect. There were also, but two, corresponding with the number of worms; for none were found in the canal on dissection; nor was there any other wound, and the ecchymosis or engorgement evidently extended from these wounds as primary foci of irritation, just as it would have done from any other mechanical injury which might not have sooner produced death. He had observed similar effects in kind, in a number of other cases, and had often observed them in the intestines of swine. When such results of the action of worms occur, it is obvious that all remedial means will prove fruitless; and even from slighter wounds from this cause, in which only the villous lining is wounded, recovery is often extremely tedious, and the patient seems to become dwarfed by the permanent impairment of the functions of digestion and nutrition, for many years, and even for life. Under these views then,

he considered that, in the want of unequivocal evidence of the presence of worms, the symptoms which render them probable should be treated with the best vermifuges; not omitting, however, regimen and other treatment demanded by the other characters of the case. He further remarked, that we have no certain vermifuge power; and consequently, cases were often considered as not occasioned by worms, because these were not brought away by our best vermifuges. He had found cases which resisted all vermifuges, repeatedly and freely administered, at various times—even one in which epileptic fits had first occurred monthly, and which had continued, under the use of vermifuges, and all other plans of anti-epileptic treatment, until the fits had come to recur eleven or twelve times a day, and in which worms were never obtained until a galvanic current was established through the system: on which, nine of the largest lumbricales he had ever seen, were at once brought away by the use of Spigelia—the fits ceasing immediately on establishing the galvanic current. He considered, therefore, that practitioners too often overlooked worms as a cause of disease.

Here the regular discussion of the evening closed.

Dr. Dugas then read the following interesting case.

Premature parturition—The infant weighing but seventeen ounces—lived twenty-four hours. Phillis, a young negro woman, had a severe attack of remittent fever, during which, she was repeatedly threatened with abortion, having violent uterine contractions, which were usually quieted by opiates. She was discharged well on the 18th September, and continued so until the 2nd October, when, about an hour before day, she was taken with nausea, vomiting, and violent labor pains, soon followed by a discharge per vaginum. I gave her an opiate, but in an hour after, she was safely delivered of a girl weighing *seventeen ounces*, and which lived four and twenty hours! The little infant opened her eyes, cried, sucked a "sugar teat," would gape, and indeed seemed disposed to live on. She, however, gradually became less vivacious, and finally died.

When called to see the mother, I found the fundus of the uterus nearly or about as high as the umbilicus, which had led me to estimate the pregnancy as one of six months; but, from the calculations of the mother and grandmother, as well as from the child's development, it could not have exceeded five and a half months.

The Society then adjourned.

Voluntary Power of the Iris.

The following very curious and interesting case, manifesting the extension of volition to the *Iris*, is extracted from a letter from our excellent and talented friend Dr. Henry Hull, dated Athens, January 23d, 1839—

"Mr. H. a highly respectable and worthy gentleman of S—— possesses the very unusual, if not unprecedented power, of *contracting* and *dilating* the pupils of the eyes *at will*, in a *strong light*. Although it may not be so to others, this is to me, new; as I have ever regarded the contraction of the Iris as purely sympathetic, resulting from irritation of the retina; and its dilatation, as the result of the absence of this irritation. In this case, the power to *dilate*, as well as *contract*, was indubitably *voluntary*: this I witnessed. How do you account for it?"

The idea of the *voluntary* control of the Iris, especially under the presence of its appropriate stimulus, light, we admit is a novel one. There are many instances in which some persons have a free voluntary control over certain muscles which others have not; such instances are common with regard to the platysma myoides, the attollens aurem, the occipito-frontalis, &c. And we have believed that much of the difference in the physical powers of individuals—their peculiar activity in the performance of movements which, to others, are impossible, was attributable to an original or acquired command of some muscles not at all subject to the will in others, or an unusual increase of the powers of volition over those ordinarily subject, in a limited degree, to the control of the will. The management of the voice, as in singing, ventrilloquism, &c. faculties so peculiar to some, may perhaps, be accounted for on this ground. The language of the face, so to speak—its great difference of expression in different individuals, as being fixed as in death, in some cases, whilst in others, it moves and speaks in every part, may be accounted for in like manner. But the peculiar structure of the Iris, the purpose designed to be effected by it, which is chiefly the regulation of the admission of light to the retina, &c. are such that we are barely able to consider it in the light of a muscle; and when considered so, we have, with Dr. Hull, considered it as necessarily sympathising with the retina, and consequently, supplied with nerves from those which are peculiarly subject to excitation by light. We should be pleased to see the opinions of physiologists on this subject.

Robert H. Copeland.

We have recently received from Dr. Bean, the following minute description of this curious example of monstrosity. We have delayed noticing it for some time, in the hope of seeing for ourselves, this singular phenomenon ; but he has not, according to appointment, visited Augusta; and as the persons whose names are attached to the following statement, afford assurance of its truth in every particular, so far as ample inspection could enable them to describe, we feel unwilling to detain it longer from the medical public. We consider it confirmatory of the proposition which we recently advocated in this Journal, on the subject of maternal influence.

A Physiological Phenomenon, or the Snake man ; Robert H. Copeland.— This most singular being, perhaps, has not a parallel in medical history.— He is now about 29 years old of ordinary stature and intellect. His deformities and physical peculiarities are owing to a fright his mother received from a large Rattle-Snake attempting to bite her, about the sixth month of her pregnancy. For several minutes after the snake struck at her she believed herself bitten just above the ankle ; and so powerfully was her mind affected, that, when she was delivered, the child's will was found to have no control over his right arm and right leg; which are smaller than his left extremities. He can use his right leg now, sufficiently to walk in a hobbling manner, but cannot retain it stationary, without the aid of the weight of his body. His right hand has the usual number of fingers, but they are smaller than those of his left hand. The wrist joint is looser than usual, and his hand stands at an angle with his arm. His front teeth are somewhat pointed, and incline backward, like the fangs of a snake. The right side of his face is sensibly affected ; his mouth is drawn considerably farther on the left side ; his right eye squints, has several deep grooves radiated from it, and has a very singular appearance, much resembling a snake. But perhaps the most extraordinary circumstance on record, is, that his right arm, when not restrained will draw the lower part to about a right angle with the upper and sometimes two or three, but most commonly, only the fore finger will project, curved at the first joint, much resembling a snake's head and neck, when in the attitude of striking; and the whole arm will strike at an object with all the venom of a snake, and precisely in the same manner, for two or three, and some times for four or five strokes, and then the arm assumes a vibratory motion, will coil up and apply itself close against his body. During this period, his right foot and leg become excited, and if not restrained, will strike also. His face is also excited ; the angle of his mouth is drawn backward, and his eye snaps more or less, in unison with the strokes of his hand, whilst his lips are always separated, exposing his teeth, which, being somewhat pointed like the fanks of a snake, causes his whole visage to assume a peculiar and snaky aspect.— During infancy and childhood, the whole shape of the snake, even to its fangs, was printed on the anterior of his leg ; but as he grew up, it became gradually obliterated, till now there is only a small depression where the snake's head was imprinted. The sight of a snake fills him with horror, and an instinctive feeling of revenge ; and he is more excitable during the season of snakes ; and even conversation concerning them excites him, and his arm appears more anxious to strike than when no such conversation is going on.

All the above phenomena are perfectly independent of his will, as hundreds can testify who were acqainted with him long before he had any idea

of exhibiting himself publicly. This singular being was born in Carolina, and moved to Georgia in the year 1829; where he has since remained, performing such labor as he could with one hand, and by unremitting exertions has maintained his wife and an increasing family. His physical peculiarities being considered only in the light of a common deformity, he never thought of exhibiting himself publicly, till it was suggested to him by a medical friend in 1837.

We the undersigned, Physicians and others, after carefully examining Mr. Robert H. Copeland, do certify, that the above description of him is substantially true.

JACOB STOKES, M. D.
ADDISON BEAN, M. D.
F. E. MANSON, M. D.
A. V. MANN, M. D.
SAMUEL C. ELLIOTT, M. D.
Of McDonough, Henry county.
Hon. WM. SEGAR, M. D. of Henry co.
JAS. LOVE, Sheriff of Henry county.
JACOB MARTIN, Attorney at Law, Zebulon, Pike county.

New Treatmxnt for Pterygium.—Dr. Brand, of Jonzac, (Charente Inferieure,) has successfully treated a case of pterygium, in which this morbid growth extended a line and a half on the cornea, by passing over its surface from its apex to its base, a pencil of solid nitrate of silver. After this application the eye was immediately bathed in cold water and then a compress wet with this liquid placed upon the organ. In three days the slight inflammation caused by the cauterisation disappeared; the caustic was then again applied, and the cauterisation repeated every three or four days; the pterygium under this treatment gradually diminished; the cornea recovered its transparency without the slightest cicatrix, and in a month the affection was entirely removed. *Journal de Medicine et de Chirurgie Practiques, Oct.* 1837.

Impropriety of operating for Fistula of the Anus in phthisical subjects.—Last year a tuberculous patient, affected with fistula of the anus was admitted into M. Lisfranc's wards. Two years previously, this patient had been operated on for fistula by a surgeon of Paris, but this disease returned. M. Lisfranc refused to repeat the operation, saying that the patient was most fortunate in his complaints returning, for his death from phthisis would in all probability have succeeded his cure. This surgeon added that he had often seen natural emunctories prolong the life of phthisical patients for a greater length of time than those established by art.—*Journ. de Connaiss. Med. Chirurg.*, August, 1837.

MEDICAL INTELLIGENCE.

We have just received the prospectuses of two new publications, which, from the references to their contents, we should expect to meet with extensive patronage. The first is a translation from the third edition of a treatise on the Diseases of Infants, by C. M. Billard, Docteur en Médecine de la Faculté de Paris, &c. &c.

A good work on this subject, founded on long and minute observation, we consider still a desideratum, notwithstanding several late publications of interest by some of our most talented practitioners. It appears that Dr. Billard founded his treatise on recent Clinical observations and investigations in Pathological Anatomy, made at the Foundling Hospital at Paris, under the superintendance of M. Baron. It is translated from the French, by James Stewart, M. D. late Physician to the New York Orphan Asylum, and one of the Consulting Physicians of the Northern Dispensary of the City of New York. The situation of the author in the Hospice des Enfans Trouvés, enabled him to examine the condition of many thousands, and to extend his anatomical researches to many hundreds of children in the course of a year—opportunities abundantly calculated to give to the work the deepest interest. The author professes to exhibit the peculiar character of the symptoms of infantile diseases, and to consider them in relation to the alterations which the organs have undergone—to have passed each apparatus under review, and to have studied the varieties of form and appearance of each, with reference to their healthy and their pathological conditions; and to have drawn no conclusions until the symptoms and the nature of the lesions have been duly considered.

The translation has been submitted to the inspection, and received the unqualified approbation of, Isaac Hays, M. D., Editor of the American Journal of the Medical Sciences, Philadelphia; of *John W. Frances, M. D. late Professor of Obstetrics, Diseases of Women and Children, and of Forensic Medicine, in the College of Physicians and Surgeons, New York; Richard K. Hoffman, M. D. one of the Surgeons of the New York Hospital,* and others.

The work is to contain 600 pages, neatly bound in sheep. Price to subscribers will be three dollars. The work was to have been published in the course of the past winter. Subscribers names are requested to be forwarded to the publisher, George Adlard, 46, Broadway, New York.

The other new work is published by the same publisher, and is entitled Medical and Physiological Commentaries. The work will be comprised in two volumes, each consisting of at least 600 pages, and the price to subscribers, six dollars, for the two volumes. By Martin Payne, A. M. M. D. Professor of the Theory and Practice of Medicine in the University of New York, and author of Letters on the Cholera Asphyxia of New York.

The following, amongst others, are the topics to which the author professes to have given his attention.

Examination of subjects relating to obscure and controverted questions in Pathology and Medicine.

The Pathology of Venous Congestion.

The Philosophy of the Operation of Blood-Letting—its practical application, and the philosophical and practical distinctions between General Blood-Letting, Cupping, and Leeching.

General Views of the Treatment of Inflammations and Venous Congestion.

The existing Theories of Inflammation, and how far Inflammation is concerned in structural changes.

The Humoral Pathology, and an examination of opinions thereon.

Examination of Views in relation to the Laws of Vitality.

Inquiry into the comparative merits of the HIPPOCRATIC and the Anatomical Schools.

Examination of M. Louis' Works on Typhoid Fever, Blood-Letting, and of his Numerical System of Inductions.

Examination of Marshall Hall, on Blood-Letting, and Irritation from the Loss of Blood.

The Philosophy of Animal Heat, especially in reference to the Induction of Dr. Edwards, with some new experiments.

The Laws which govern Venous circulation.

The application of Chemistry to the Philosophy of the Vital Functions, and their results.

The theory of Digestion, &c. &c.

The topics of each of these works, are of the greatest interest to the profession, good treatises on which, written under the guidance of rigid induction, should be in the hands of every member. Induction is, fortunately, becoming so much the order of the day, that we presume these treatises would scarcely be offered to the public at the present time, without this as a shield to defend them through the reviewing ordeals of the present day. We have not had the good fortune to see either of the works; but so far as we can judge from the prospectus' of each, which is now before the public, we feel disposed to commend them to the attention of practitioners and students.

SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] APRIL, 1839. [No. 7.

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

An Essay on Congestive Fever. Presented to the Faculty of the Medical College of Georgia, at the Annual Commencement in March, 1839. *By* WM. M. BURT, *of Edgefield. S. C., a candidate for the Doctorate.*

[The frequency of occurrence, extensive progress and dangerous character of the fevers, which have, of late, been known by the name "*congestive*," impart great interest to every thing calculated to diffuse a knowledge of the disease. Essays and observations on the subject, from those of the south under whose notice it has been most abundant, have been repeatedly, but in vain called for—some have been promised, but none have come to hand; and now, a premium is offered by the Medical Society of Augusta, for the purpose of drawing forth the best information on the subject for the benefit of the public. Meanwhile, we seize on the present opportunity of laying before the public a very faithful and accurate, though brief view of this disease, as it has appeared in an adjoining district. We regret that it has not been in the power of the promising author, to give the autopsic appearances which follow congestive fever. This, however is not to be expected to any extent, of those whose observation is limited to country practice.] EDITOR.

As there are few diseases which I conceive to be of more importance, or which afford more room for original speculation than *Congestive Fever*, I have ventured to select it as the subject of my thesis. But it is with hesitation I undertake its exposition, as I am perfectly aware of my incapacity to do justice to a subject of such vast importance. I shall, however, endeavor, in a cursory manner, to present my views with regard to the character and causes of the disease which has prevailed in Edgefield District, S. C., for the last two or three years under the above name, and then relate the mode by which I have known it most successfully treated. With regard to the nature of this, as of many other diseases of malignant character, physicians appear to entertain a variety of conflicting opinions; some believing it to be a modification of one, and some of another disease; no two, so far as my inquiry has extended, appearing to be alike in their belief. This we may, however, expect will continue to be the case, until a series of post-mortem examinations shall have revealed to the world its true pathology.

As to my own part, I am convinced, at least, so far as the external phenomena enables me to judge, that it is a species of fever, differing in some respects from any other which had existed among us previous to its invasion; and that it depends primarily on congestion of the capillary vessels of some portion of the mucous membrane of the alimentary canal, most generally that of the ilium or small intestines.

On account of this local congestion, the equilibrium of the circulation becomes destroyed, and the sanguiferous system brought into a state of febrile re-action. The blood is then forced upon this morbid membrane by the increased action of the heart and arteries, and a new set of phenomena are produced, indicating more conspicuously the presence of intestinal irritation; which, in attacks of extreme violence, spreads by continuity of surface or otherwise, until it has even reached the œsophagus.

The mucous membrane of the lungs also appears to be often involved in the disease, which renders it much more perplexing to the practitioner, and by far more liable to be attended with fatal consequences.

Symptoms.—The symptoms characterising congestive fever, vary according to the extent and location of the affection; and

therefore cannot be satisfactorily delineated without considering it under two varieties, the mild and the malignant; the former of which, I believe, depends in all cases, upon functional derangement of the capillary vessels of the mucous coat of the ilium; which opinion, I trust, will be rendered somewhat justifiable, by pointing out the characteristic symptoms of this variety of the disease.

An individual, previous to an attack of congestive fever in its mild form, will sometimes for days and even weeks, experience a loss of appetite, and even the small quantity of food which he takes will be imperfectly digested; his bowels become irregular in their action, being sometimes constipated, and at other times preternaturally relaxed. There is extreme languor, especially in the after part of the day, most generally attended with sensations of chiliness, which are succeeded by a slight increase of pulse and drowsiness. After these premonitory symptoms have continued for an indefinite length of time, the individual is taken with a decided chill, which also varies in duration, and from which the system gradually passes into a state of re-action, which, in some cases, is so very slight, that one unacquainted with the nature of the disease, might be induced to believe for a short time, that the patient did not require medical attention. But by close observation, he will soon become convinced of his error with regard to the transientness of the symptoms. The patient's pulse, though not increased in fulness, remains frequent and rather tense, the surface of his body becomes dry and rather shrunken, except about his neck and forehead, where a slight moisture is found almost invariably to exist throughout the whole course of the disease. He does not complain of any pain under ordinary circumstances, but if pressure be made upon the abdomen just below the umbilicus, he will experience obtuse pain or soreness in the bowels. His tongue invariably assumes a red color along its edges and tip; having in almost all cases a streak of dirty white fur in its middle. His appetite is most generally wanting, or very much impaired, though in some rare cases it is exceedingly voracious, an instance of which I have seen, and in this case the patient's tongue, instead of being of the usual color along its middle, presented an aspect approaching very nearly that of indigo. There is generally considerable thirst present, but the patient appears to be indifferent with

regard to the temperature of the fluids given him, taking them warm or cold without complaint. His urine is diminished in quantity and rather more highly colored than natural. His bowels are apt to remain irregular in their action—diarrhœa being easily excited; his strength is quickly exhausted, and his extremeties liable to become cold, especially in the morning. Sometimes towards the third or fourth day, the abdomen becomes slightly tympanitic, more especially if drastic purgatives have been freely used at the commencement of the attack.

Without proceeding farther with the history of this form of the disease, I would remark that it seldom, if ever, proves fatal, provided a judicious plan of treatment be pursued from the commencement; although it frequently runs on without much alteration for the better or worse, until the fortieth day. But the usual period at which it terminates is about the twentieth day.

Having thus briefly considered what I have ventured to denominate the mild form of congestive fever, I will now pass to the history of the disease in its malignant form; which, although not so abrupt in its attack or altogether so rapid in its progress, is, I presume, little less to be dreaded than Asiatic cholera or yellow fever. Still I am inclined to think that future investigation will divest it of many of its terrors, by proving that one grand cause of practitioners having heretofore been so uniformly unsuccessful in its treatment is this: diseases previous to its invasion had for a long time observed an uniform character; hence arose an uniform and unalterable plan of treatment, which could not prove otherwise than pernicious in a disease like the one under consideration. I do not wish it inferred that I entirely condemn the use of purgatives in this disease, but only their injudicious employment. And thus I apprehend many individuals have been precipitated into an untimely grave by erroneous treatment, rather than by a disease necessarily uncontrolable in its nature.

Symptoms.—The symptoms characterising the malignant form of congestive fever, are much more conspicuous than those already described. The febrile heat is much more intense, the pulse more voluminous, and incompressible; there is considerable nausea with vomiting, most generally attending at the commencement, with other signs of gastric irritation, such as a sense of burning and oppression in the epigastric region; the breath-

ing is short and very much hurried; the patient complaining of considerable uneasiness in the chest, and having a dry cough, his thirst is most insatiable, with a desire for the coldest drinks; his tongue is of a fiery red color, presenting a smooth or polished surface; indeed so uniformly does this redness of the tongue accompany the disease, that it received, and still retains among the common people the name of the red tongue fever, which is very characteristic of it. The individual is extremely restless, tossing himself from one side of the bed to the other; his bowels are generally constipated at the commencement of the attack and sometimes very obstinately so, resisting the action of cathartics surprisingly; and in such cases when they once yield, their whole contents appear to be passed off at one discharge. His urine is scanty and very high colored, being passed sometimes with more or less pain. As early sometimes as the second day, the patient will complain of great intolerance of light, and a sense of fulness in the head; his abdomen is apt to become turned, and when the disease is going on to a fatal termination deglutition becomes difficult, a low delirium supervenes, and the discharges both by urine and stool are passed involuntarily. A copious secretion of white, frothy, and extremely tenacious mucous is thrown off by the bronchial tubes, a most profuse perspiration breaks out over the whole surface of the body, the extremities rapidly grow cold, the countenance assumes a cadaverous aspect, the pulse generally intermits, or ceases to be felt at the wrist, and at this extreme period, the mucous secreted by the bronchial tubes becomes so abundant as to produce suffocation, and thus put an end to the patient's indescribable sufferings.

The period at which the crisis generally takes place, is on the fourteenth or fifteenth day, and when it occurs short of the ninth, death, I believe, invariably follows.

Causes.—The causes which conspire to raise congestive fever, appear to be quite numerous and diversified. Among them may be enumerated, sudden suppression of cutaneous transpiration, thereby producing a determination of blood from the surface to the internal organs. Taking a draught of cold water while excessively warm, will sometimes produce the disease in its most terrific form. In this case, I presume, the morbid impression produced on the nerves of the stomach by

the cold water, is transmitted through the medium of the sensorium commune, to the cutaneous exhalents and capillaries; which occasions not only the retention of a large quantity of perspirable matter, but a constriction of the extreme vessels, thereby causing the blood to accumulate in the internal organs. The disease may also be produced by exposure to a cold and humid atmosphere, especially at night. Standing long upon wet ground, sleeping in wet clothes, eating of indigestible food, such as unripe fruit. Miasmata also appears to be one of the most fruitful sources of congestive fever, of which I think I could adduce ample evidence were it necessary. But how this ærial morbific agent operates in producing its delcterious effects upon the system, I shall not pretend to say. In short all agents may predispose the system to congestive fever, which are calculated to derange the functions of the body, by producing hyperoemia of the mucous surfaces.

Treatment.—In the treatment of congestive fever, our grand object is to equalize the circulation, restore the natural functions of the excretory organs, and obviate inflammation. For the accomplishment of this, our agents must be adapted to the degree of violence the disease assumes: for instance, general bloodletting is seldom required in the mild form of the disease, and when employed, it should be at or soon after the commencement of the febrile symptoms, and when the bowels are in a state of constipation, and the pulse resisting. Under these circumstances, it may be productive of good by diminishing the force and frequency of the pulse, and rendering it more voluminous, and also by assisting the action of such remedies as may be administered for the purpose of evacuating the alimentary canal, and promoting diaphoresis. As the powers of re-action in the system are generally feeble from the commencement of an attack, I would here remark, that venesection should always be resorted to with a great deal of circumspection, lest permanent debility be the result. With regard to the beneficial effects of purgatives in this as well as in the malignant form of the disease, a great deal depends on the nature of the articles employed; for example, drastic purgatives are always liable to be attended with the most dangerous consequences, producing great irritation in the bowels, and excessive purging. Hence the mildest articles belonging to this class should always be selected.

When at the commencement of the febrile symptoms the bowels are constipated, purgatives are indispensable, and those too, which are calculated to produce thorough evacuations; for it is quite evident that the retention of fœcal matter, or any vitiated secretion in the bowels, would constitute a prolific source of irritation. For this purpose, I know of no remedy in the materia medica, which is preferable to calomel and Dover's powder combined, and followed by castor oil in the course of a few hours. After the bowels have been evacuated by this means, they should be kept open by the occasional use of some mild aperient, or injections of warm water.

Should signs of intestinal inflammation or colliquative diarrhœa ensue, small and repeated doses of the pulvis ipecacuanha compositus should be given. Leeches or cups should be applied to the abdomen, and followed by emollient poultices, for the purpose of promoting the discharge of blood, and also assisting in producing a more decided revulsive effect.

The patient's diet should be strictly antiphlogistic at the commencement, consisting of mucilaginous drinks altogether. But as the disease is one of long duration, the diet should be rendered more nourishing as soon as practicable. As often as the extremeties sink below the natural standard of temperature, epispastics or sinapisms should be applied. The malignant being much more formidable in its nature than the mild form of congestive fever, necessarily requires a more energetic plan of treatment, and as there are often at the very commencement of the attack, marked signs of gastro-intestinal irritation, together with a disposition to cerebral congestion, we at once conclude, that general bloodletting is a most important means for arresting the progress towards inflammation. The blood, in such cases, should be drawn from a large orifice, and the operation repeated until a decided impression be produced upon the pulse, or until we have reason to doubt the propriety of its use. In the meantime a blister should be applied to the epigastrium, and the head kept cool by means of a bladder containing ice, or clothes rung out of cold water. When by these means the vomiting has been arrested, and the action of the heart and arteries moderated, small doses of calomel combined largely with opium or the sulphate of morphia should be given at proper intervals, and followed by oil or some of the saline preparations. Pro-

vided the means prove too energetic in their operation, producing copious watery discharges, and the patient's strength fail rapidly, blisters should be applied to the extremeties with a view of keeping up excitement, and the black drop administered for the purpose of arresting the discharges from the bowels. The patient should be allowed the free use of cold mucilaginous infusions at all times; all irritating or solid articles of food being avoided: for I am confident there is no disease in our southern country, in which more can be effected by a proper regulation of diet, than in the one under consideration.

In all cases where tympanites occurs, cups; or leeches, which I consider preferable, should be applied to the abdomen, and their application succeeded by warm poultices. In the latter stage of congestive fever, our treatment should consist of means the most simple in their nature, such as mild aperients, for the purpose of keeping up regular and moderate discharges from the bowels, with the occasional use of some innocent diaphoretic. Frictions should be frequently applied to the surface of the body, in order to equalize the circulation, and the natural temperature of the extremeties sustained by stimulating cataplasms.

During convalescence from this disease, the strictest regard should be paid to the patient's diet. Mild farinaceous liquids are generally quite sufficient for several days after the subsidence of the fever.

ARTICLE II.

An Essay in answer to the question, "What is the pathology and treatment of Cholera Asphyxia," read before the Medical Society of Augusta. By EDWARD A. EVE, M. D., *of Richmond County, Geo.*

The importance of the subject for our consideration is so well established, and generally acknowledged, that it is altogether unnecessary to endeavor to impress it on the present occasion; therefore we will proceed at once to examine the question or questions before us—"The Pathology and Treatment of Cholera Asphyxia." Although the generic name—cholera—is inappropriate and calculated to convey imperfect and erroneous ideas of the true pathology, the symptoms of "cholera asphyxia," Asiatic, or spasmodic cholera, (the species designed for discussion this evening,) so readily occur to the mind of every physician, that a regular detail of them in this place would be superfluous, and such only as may be required to substantiate or elucidate principles shall be adverted to in the course of the following remarks. The object of the present discussion being to elicit truth, it has been my aim in examining the different theories promulgated by different authors, to adopt and support such as seems the most rational, and best sustained by facts in possession of the profession, rather than coin a new one, whose only recommendation might be its novelty: still, as the same evidence makes a different impression on different minds, in the spirit of the familiar motto, "addictus jurare in verba magistri nullius." I will take the liberty of only adopting such parts of a theory as are consistent with my views, physiologically and pathologically considered, and of rejecting the rest, however respectable the authority from which they emanate. In the rapid review of the doctrines of the pathology of cholera, that I have taken, I cannot account for the very different views that authors of equal celebrity and equal opportunities of observation, have advanced, unless it is that they have founded their doctrines on the phenomena existing in different stages of the disease. It can be from this cause alone, that we have it styled

on one hand a disease of high excitement, requiring active depletion, and on the other, one of most perfect prostration, demanding powerful stimulants. Now avoiding either extreme, hoping to steer a safe and correct course between them in the humble attitude of an eclectic, I have endeavored, after a survey of the different theories that have been erected on this subject, to gain from each some fact that may be valuable in the formation of one that can derive its support from its accordance with the symptoms, the only external and visible signs of the internal, and invisible ravages of disease before death, and the structural lesions apparent upon post mortem inspection, which bear witness of the truth of those external signs which before were only uncertain indications of the internal condition. We admit that neither the symptoms, nor post mortem appearances, taken separately, can develope the true nature of disease; but when a due correspondence can be established between these indices,—that is, when we can predict by the symptoms what structural lesions will appear post mortem, and vice versa when we can tell by inspecting the structural lesions, what the symptoms were during life; thus reasoning from cause to effect, and from effect back to cause, our circle of ratiocination becomes complete, and our conclusion attains to the certainty of demonstration. It is after severe perquisition by these laws, that I adopt the following views concerning the pathology of cholera—which are, that it is threefold in its nature, according to the different stages of the disease. The first, or initiatory stage, I conceive, consists in congestive irritation of the gastro-intestinal mucous membrane, accompanied by excessive secretion of the aqueous elements of the blood; this condition of the mucous membrane has not been inappropriately termed by different authors, secretory irritation, and serous hemorrhage, conjoined with this state of the alimentary canal, there is great loss of equilibrium in the circulation, with a centripetal tendency of the fluids, in obedience to the often quoted axiom, "ubi irritatio ibi humorum affluxus." This stage continues for a longer or shorter period, as the powers of resistance inherent in the subject attacked, stand in relation to the violence of the attack. This gradually glides into the second stage, which is characterized by the accession of a new phenomenon, the deterioration of the blood. Very respectable authority, notwithstanding, could

be adduced, who maintain a depravation of the blood to be the proximate cause of this disease; chemical analysis, however, could be brought to disprove the allegation if necessary; but we do not think it "nodus vindice dignus," as the deterioration of the blood that we allude to, can be accounted for satisfactorily by the deperdition of its saline and aqueous elements, from the excessive drainage through the mucous membrane, which constitutes the leading characteristic of this disease, leaving it dark, and of a syrupy consistence. This inspissation of the vital fluid, rendering it unfit to permeate the delicate ramifications of the vascular system, is a mountain-like difficulty in the way of the recovery of a cholera patient advanced to this stage; it is a difficulty whose tendency is to increase, as with a self-generative power. The blood deprived of its aqueous elements, penetrates with difficulty the capillaries of the lungs, and in a state unfit to be oxygenized, it being through the medium of the serum that the blood receives its oxygen from the atmosphere. Now this deoxygenated blood stimulates less actively the organs of circulation, and the organs of circulation in turn still more imperfectly bring it in the sphere of oxygenation; thus acting in a perpetual circle of cause and effect, each effect acting in turn as the cause of the next effect. And when in addition to this increasing devitelization of the blood, we recollect that the follicles of the alimentary canal are acting as so many wastegates of vitality, can we wonder that death should be an early result? What, according to our arbitrary division of this disease we designated the third stage, or that of collapse, or approaching collapse, is distinguished by the system of ganglionic nerves being brought within the sphere of morbid association. By this complication, the relation that one organ bears to another being destroyed, the difficulty of recuperation is very much increased—hence the great difficulty we have in this stage of irradiating excitement by any remedial means he can institute; and hence, also, that icy coldness, that so obstinately resists external heat, that would be sufficient to elevate the temperature of the cadaver considerably above the standard of healthy vitality.

Having now given a cursory and very imperfect sketch of our pathological views of cholera, we will in the next place consider the *treatment* with reference to those views.

Venesection.—This remedy has been variously estimated, ac-

cording to the opposite views entertained by different writers on the subject. Of course, those believing in the phlogistic and inflammatory nature of the disease, would esteem it of the first importance. Those, on the contrary, who consider this disease a state of debilitation or sedation, would, in consonance with those views, deprecate it as an agency fraught with danger, and whose direct tendency would be to increase the difficulty under which the patient was already laboring. According to the pathological views that we entertain, venesection, if employed precisely at the proper period, would often exercise a favorable influence. Its chief value is derivable from its power in equalizing the circulation in the onset of the disease, and of moderating the violence of re-action, when too high, in convalescence. Notwithstanding these beneficial effects may sometimes be derived from this remedy, still, the science we have to treat, glides with such rapidity from one stage to another, as to make the general employment of this agent, a doubtful, if not a hazardous practice; topical depletion being a safer, if not a better remedy.

Emetics.—Emetics, if administered in the early stage of this disease, and with judgment, will sometimes be. productive of good. Warm salt and water, with the addition of mustard, are preferable to any other.

Counter-excitement.—When we consider the congestive character of this disease, and the centripetal tendency of the fluids, revulsive applications will be esteemed of the highest importance, They should be used in the early stages, for then only we can hope to achieve much; but they should be used also in collapse, as then little else can be done. But notwithstanding counter-iritants, and internal stimulants appear to be our sheet anchor in this moribund state, still, on that account, we must not, as is very often done, apportion the power of the stimulants to the apparent necessities of the patient, any more than we would apply an intense degree of heat to a frozen member. It is from the supposed analogy that this algid condition of the cholera subject bears to a frozen member, that the practice of administering cold water in this affection has arisen; and however abhorrent, at first view, appears the idea of applying cold externally and internally to a patient already affected with the death like coldness attending collapse, still, according to the analogy just alluded to, it is not altogether unreasonable; and no doubt,

if administered with discrimination, in suitable subjects, and in proper stages of the disease, it might be found beneficial. Where thirst, and the sensation of internal heat are very great, iced water taken, internally, and bladders of ice applied to the epigastrium at the same time that the extremeties are surrounded with warm applications, would tend powerfully to divert the centripetal tendency of the fluids, and to restore the lost balance of the circulation. Although we believe that this advantage might accrue from the judicious use of cold in cholera, we apprehend, that, from the ultraism that pervades our profession, far other has been the result; for we find that when the successful employment of cold as a remedy in cholera was announced to the public, not only was it grasped at with avidity, as a hitherto much neglected remedial agent, in this terrible disease, but numerous writers contended for the credit of having previously advocated its employment in this affection; and as a result of this re-action in the mind of the profession, all medicine was withheld, and the poor shivering subjects of collapse were drenched internally with several gallons of cold water in a few hours, and subjected to the affusion of as many bucketfuls in quick succession.

Calomel and Opium.—Although revulsives appear to be indispensable in the treatment of this disease, still, it is to calomel and opium that we look for our chief curative means; whatever other adjurants we may call in, still they are only auxiliaries, and this valuable alterative, calomel, combined with the sedative power of opium, must form the basis of our treatment. The liver is affected with almost indomitable torpor—the secretions generally are thoroughly deranged, and nothing less than this powerful cholegogue and alterative can be relied upon to change their disordered action, and restore them to a normal state. Besides its suitableness to the pathology of the disease, the success with this remedy when resorted to early, has been such as to justify the confidence that has been reposed in it. When opium, from the irritability of the stomach, cannot be retained, opiate enemata, frequently repeated, offer an invaluable resource; it might be well in almost all cases, to put the patient under the influence of an opiate enema.

Astringents.—The next class of remedies which claim our attention, is that of astringents. These agents from the patho-

logical views we have taken of this affection, are certainly imperiously demanded, although the effect produced, unfortunately, falls far short of the demand and of the promise their therapeutic applicability would sanction. Acetate of lead, from its well known antihemorrhagic power, seems peculiarly applicable to this state of the alimentary canal, so closely resembling that of hemorrhage.

Saline Mixtures.—These remedies administered by the mouth, or as enemata, to supply the aqueous and saline elements of which the blood has been deprived, in this active state of the exhalents, and inactive condition of the absorbents, I cannot conceive would have any useful effect.

Nostrums, catholicons, and antidotes, &c., have been multiplied without number; but each "has strut its hour upon the stage," and sunk into oblivion, unfortunately, only to give place to another; and the more malignant the epidemic has been, with the greater audacity have their certain cures been heralded forth. As it would be an endless task to notice them in succession, we will pass them over with the silence they deserve. Not predicting whether there ever will be, or not, a specific found for this truly terrible and intractable malady, we cannot but come to the mournful conclusion, that it has not yet been discovered; and though we may be able, by the remedial resources we possess, to treat cholera patients to whom we are timely called, and in the less malignant attacks, with considerable success, still, when the attack is malignant, or the patient has reached the stage of collapse before we are called, it matters little what course we pursue, the result being nearly the same in each.

Though about to conclude, there is still one remedy, which, from the interest it excited in its day, I think ought not to be passed over in silence—I allude now to saline injections into the veins; when we take into view the great deperdition the blood sustains of its important elements in this disease, the alteration it undergoes, both in its chemical and physical properties, the former rendering it unfit to perform the vital functions for which it is designed, and the latter by its inspissation incapable of permeating the delicate capillary system, thereby erecting an almost inseparable barrier to recuperation; it is not wonderful that such a deplorable crisis should have suggested the idea of

supplying the loss of these elements, by injecting into the veins fluids as nearly as possible resembling the nature of those lost. This, however, as well as the whole catalogue of other remedies, in most instances has failed; but not, as it were, without winning a smile of approbation for its ingenuity; death has relaxed his grasp, and re animation has flushed features, a few moments before cold, pale, shrunken, and wearing the signet of death, with the rosy promise of life; but it has been like the last flickering flash of an expiring light, in a moment they were shrouded in the night of death! The general result of this treatment, as we gather from a history of the cases in which it has been employed, has been of this character, a flattering amendment has been produced; but for the most part, the disease has returned with violence, and the patient has in a short time succumbed. We do, however, find a solitary instance or two recorded, where the recovery has been said to be permanent. A better understanding of this treatment, and an improvement, in manual adroitness, acquired by its frequent employment, might, in some measure, enlarge the number of recoveries; but there are practical difficulties, in the way of the operation, sufficient to prevent it from ever becoming generally available as a remedial agent. The introduction of air into the veins alone, would often render the operation abortive. To prove the destructiveness of this accident, which does not seem to be recognised generally, even by physicians, we have but to advert to several well authenticated accounts of surgical operations recently performed, some of which have been very much embarrassed, and others rendered fatal, by this complication. In corroboration, also, of the destructive energy of this agent, when intromitted into the veins, I can adduce an instance, from the little veterinary surgery that has accidentally fallen under my immediate observation. A horse, affected with tetanic spasm was bled, the puncture being small, the blade of a penknife was introduced to dilate the orifice; by this manoeuvre, owing to the dullness of the instrument, the vein was raised out of its natural bed, a peculiar gurgling noise was heard; instantly the animal was affected with a convulsive trembling, and fell dead at my feet; being myself the operator on this occasion, I had the best opportunity of hearing the peculiar noise, and witnessing the effects of the accident. I have brought forward this case,

merely to show one difficulty in the way of the operation; others will occur to the mind of every one who reflects on the subject. Might not the transfusion of the blood of a healthy human subject into the veins of a choleric patient, be attended with a happy effect? We are aware, that for the reasons above stated, this could not be at all times practicable; but, if at all possible, and the effect conservative of life, it would be well, nay, ineffably desirable to have it among our resources.

When we take into consideration the deoxygenated state of the blood as evidenced by the livid plumbaginous hue of the skin, as well as the appearance of this fluid itself, when brought to view, does it not seem reasonable, that, together with using every means to preserve, or if lost, to restore the aqueous elements of the blood, if we were to cause the patient to inhale an atmosphere charged with a greater than usual proportion of oxygen, it might have a happy effect in giving vitality to the languid circulation, and thereby conduce to the recovery of the patient?

With the above suggestions we will bring these remarks to a conclusion; this essay being intended to be decidedly elementary, precludes that entrance into the minutia of the treatment, that would be allowable and necessary in one of a more practical character.

Part II.—REVIEWS AND EXTRACTS.

Observations on the use of Balsam of Copaiba in Diseases of the Mucous Membrane of the Intestinal Canal.—By R. La Roche, M. D., *of Philadelphia.*

We extract from the pages of the eleventh and twelfth numbers of the 2d volume of the Eclectic Journal, the entire essay of Dr. La Roche, on the use of balsam copaiba in diseases of the mucous membrane of the intestines, because it is calculated to bring before the practitioner a much neglected, but valuable remedy for some of our most troublesome and unmanageable diseases. The practical utility of this balsam in these cases, is by no means of recent date, but its adoption in practice has been strangely limited to a few sections of country, and to the practice of but few practitioners. Dr. La Roche has, in this essay, given us a history of its use, both interesting and substantially useful—setting forth, as it does, the very best authority of different ages, for its efficacy. Editor.

In the fifth number of the North American Medical and Surgical Journal, I laid before the profession the details of several cases exemplifying the beneficial effects derived from the balsam of copaiba in the treatment of chronic bronchitis. At a more recent period* I published the results of my experience with the same remedy in catarrh and morbid irritability of the bladder, as well as in leucorrhœal discharges. The object of the present communication is to show, by facts which have come under my personal observation, and also by a reference to high medical authorities, that when employed under appropriate circumstances, and with suitable precautions, the copaiba has been found decidedly useful in some diseases of the intestinal lining membrane.

The first of these to which I shall call the attention of the reader is *dysentery.* The introduction of the copaiba in the treatment of this disease is not, so far at least as I have been able to ascertain, of very ancient date. Dr. Armstrong, it is true, states that it was recommended by some of the older writers in that "and similar diseases of the belly." But, conformably with his almost constant custom, he cites no names, so that his less learned reader is left in the dark relatively to the standing of those writers, and the period at which they flourished. Etmuller, and several of his contemporaries and immediate successors, speak of the use of balsamics in the secondary stages of the complaints in question. But as their remarks have reference to the Peruvian balsam, and never, it would appear, to the copaiba, and as neither James, Motherby, Lewis, Lieutaud, Cartheusen, nor other writers of their times to whom I have access, make any mention of it, it is not unreasonable to conclude that the practice of resorting to the copaiba was not, to say the least, as ancient or common as Dr. Armstrong would lead us to believe.

* American Journal of the Medical Sciences. Vol. xxvii., May 1834.

But, however it may be in regard to the antiquity of the introduction of the remedy in the treatment of dysentery, a question which, after all, is quite unimportant to most readers, we have evidence that, at a comparatively recent period, several British practitioners,—whether guided by their theoretical views of the mode of operation of the copaiba, or by the result of their experience of its effects in other diseases of a kindred nature, or following the example of their predecessors, it matters not,—were induced to resort to it in that complaint. What the effects of the practice were, or what was the estimate formed of its utility, may be ascertained by a reference to the works of Pemberton, Cheyne, Good, Armstrong, Abercrombie, and others. The first of these writers employed it in both the acute and chronic form of dysentery. He states, that when the griping pain, in the acute form, has in some degree subsided, he has frequently observed the greatest relief from the tenesmus, obtained by small doses of this remedy; and that injections of the same will often tend to remove the last mentioned symptom. "If it should happen," he continues, "that the practitioner is consulted after this disease has continued for some time, and has now put on the form of chronic diarrhœa, with the excretion of mucus and blood, attended with occasional griping pain and tenesmus; and if, moreover, the discharge should be unusually offensive and curdled, there will be reason to suspect that ulceration has taken place in the large intestines: here, too, the same dose of balsam of copaiba may be recommended, and injections of it as before mentioned."

Finally, when the disease arrived at this stage, and was attended with great debility, Dr. P. prescribed the same remedy in conjunction with the decoction and tincture of bark, and with tincture of opium when the tenesmus was distressing.

Dr. Cheyne, to whom the profession is indebted for a very excellent account of the dysentery which prevailed some years ago epidemically in Dublin, makes some valuable remarks on the use of bleeding and mercury in that formidable disease; and adds, that as soon as the influence of the latter was rendered apparent by the condition of the mouth, it was laid aside, and a mixture with balsam of copaiba was given every fourth or sixth hour. From this the greatest relief was often obtained: the fæces, from being of a bottle green, and mixed with mucus (the effect of the calomel and opium,) and passed, with tenesmus, became more natural in appearance, and were voided less frequently; the patient considered himself cured, and in many cases his recovery followed. "It resulted from a consideration of the cases in my possession," Dr. Cheyne remarks, "that venesection, calomel and opium, followed by the copaiba mixture, with farinaceous diet, proved more successful than any other method which was adopted in the severest cases."

Dr. Armstrong states, that the copaiba might be beneficial in dysentery, but especially in those protracted cases which usually baffle the ordinary remedial means. He is of opinion, that it will hereafter be placed among the most useful secondary remedies, and generally employed after the lancet and calomel in the acute and subacute cases. In chronic dysentery he thinks it peculiarly suited, and states that in three obstinate cases, where purulent matter was passed from the intestines, it appeared to be of considerable service.

Dr. Abercrombie, than whom we know of no higher authority in relation to the treatment of diseases of the alimentary canal, states that in the more advanced stages of acute dysentery, when the morbid secretion continues after the inflammatory symptoms have been subdued, various remedies of a tonic and astringent nature appear to be useful. Among these he cites the copaiba. Dr. Abercrombie likewise recommends it, among other remedies, in chronic dysentery, and in the slighter and more obscure forms of affections of the intestinal mucous membrane. In all these cases it is also men-

tioned by Dr. Good as a valuable medicine. Mr. Hooper prescribed it in the dysentery which prevailed among the troops that returned to England after the discomfiture at Coruna; though particularly when the complaint was attended with suppression of urine. Sir James MacGregor, in his "Sketch of the Medical History of the British Armies in Spain," remarks, that Mr. Woolrich found great benefit from a mixture of the balsam copaiba in gum water with infusion of columbo, in the cases of dysentery treated by him in the Hospitals of Celorico and Castello Branco. Dr. Bamfield, after remarking that the copaiba has sometimes been used successfully in chronic dysentery, adds:—"The friendly and kind Mr. Pearson, senior surgeon to the British factory in China, assured me he had cured the Hon. Mr. E——ne with it, after every remedy prescribed in India and Europe, for two years, had failed. It preserved a lax state of the bowels, and an increased flow of urine." "It is a mild, safe medicine, and is entitled to its turn, in the very obstinate chronic cases sometimes met with, among the variety and changes of symptoms and of medicines prescribed." Finally, Dr. O'Brien used the copaiba with much success in chronic dysentery, and Dr. Joseph Brown recommends it combined with opiates in the same form of the disease, as well as for the removal of the tenesmus in the acute form.

Favorable, however, as these testimonials of the effects of the copaiba doubtless are, it would appear that, up to the present time, the practice of resorting to it in dysentery has been almost exclusively limited to England. On turning to the various publications that have appeared in France on the subject of the treatment of that disease, or in which the therapeutic virtues of the copaiba are noticed, we shall find that, with the exception of Barbier and a very few others, the physicians of that country either discard it completely as inapplicable and injurious, or at best speak of it as of a remedy of doubtful efficacy in the very cases in which the English have found it useful. Dr. Eberle, it is true, remarks, in his work on the Practice of Medicine, one of the best of the class of which we can boast: that this remedy frequently does excellent service, and that he has employed it with unequivocal benefit. But judging from all I have seen, Dr. Eberle forms an honorable exception in this matter; the copaiba being seldom, if ever, alluded to by American writers in reference to its effects in dysentery. The difference of opinion respecting the efficacy of the balsam—the high estimation in which it is held by many eminent physicians in England, and the opposition or neglect it has met with in France and this country—will be accounted for by those who have had opportunities of noticing its effects in the above mentioned disease, by the difference of experience with it in the two countries. In England, practitioners, waiving all preconceived notions, if any such existed, have not hesitated to make a fair trial of the remedy; whereas, the French and the practitioners of this country, entertaining more respect for their theoretical views than for the testimonials of the practical experience of foreigners, or a few of their countrymen;—not aware perhaps of its having been used advantageously by others; or feeling a reluctance to substitute a new agent for those which they are accustomed to employ, have discarded it untried from their practice. Such at least, is the only explanation of this difference which occurs to me. I have little doubt that had the remedy been as fairly tried in France and this country as it has been in England, we should find it more generally spoken of in the former country, and among us as a valuable agent in the management of the painful disease in question. It is impossible to deny that, on a superficial examination of the subject, and laying aside for a moment the testimony above recorded in relation to the usefulness of the copaiba in dysentery, great objections may be urged against the propriety of the practice; for the copaiba, it is well known, is endowed with stimulating properties, and few physicians will, now a days, venture to say that dysentery consists in any thing else than in an inflammatory condition of the mucous membrane of some portion of the

alimentary canal, with or without concomitant affection of annexed or distant organs. But, when we consider that the primary impression of the remedy is made on the stomach, which is *not* the seat of the complaint—that by the time it reaches the inflamed surface it has probably already undergone considerable modifications—that these modifications must still more evidently occur if it is absorbed, and only penetrates to the diseased part through the medium of the circulation;--that if such be the route it takes, the inflamed surface is placed in nearly the same relation to the lining membrane of the stomach as other portions of the mucous tissue in those inflammatory complaints in which the balsam copaiba is known to be used advantageously. If, I repeat, we bear the circumstances in view, and recollect, at the same time, that remedies endowed with stimulating properties do not all act in disease merely in virtue of those properties, and that other articles of the same class are beneficially employed in inflammation of particular portions of the animal tissues, it will not be difficult to discover that something more is required to lead us to abstain from copaiba in dysentery than the simple fact of the former possessing stimulating properties, and the latter being of an inflammatory character. Nothing, indeed, but a positive demonstration of its injurious effects should induce us to reject its use in dysentery;—theoretical speculations should be of no avail, and experience should be appealed to confirm or infirm the position. But so far from this demonstration having been given—so far from experience having confirmed the validity of the opposition made to the remedy by some, or justified its neglect by others, the references above made to the writings of several eminent English practitioners, will show that the efficacy of the copaiba in dysentery is a fact placed beyond the possibility of doubt; while a consideration of its known effects in diseases of other portions of the mucous membranes, ought to have appeared sufficient, by itself, to lead physicians to think well, *a priori*, of the practice.

Influenced by these circumstances I was induced, some years ago, to resort to the copaiba in a case of dysentery which had proved intractable to the ordinary means. The effects obtained were such as to encourage me to make farther trials of the remedy; and, after duly reflecting on the issue of those cases, and on the phenomena presented, not only in obstinate, but in ordinary cases also, I have no hesitation in expressing the opinion that, so far as my own experience goes, the copaiba is entitled to the praise it has received, and consequently deserves a trial in some forms of the disease in question. It is hardly necessary to say, in the present state of our knowledge respecting the uncertainty of the action of medicinal agents generally, that the copaiba can not be expected to succeed in every case, and that it should not be prescribed in all stages of the complaint. Like other remedies, it will, in this disease, as in other forms of mucous inflammation, often fail, even when used under the most appropriate circumstances; so far as I can decide, it would be improper to have recourse to it at the commencement of the attack, before the violence of the inflammation has been reduced by general and local depletion, by diluent drinks, tepid baths, fomentations, mild purgatives, ipecacuanha, opiates, emollient injections, and blisters. Some physicians may perhaps allege, that these means being generally found sufficient by themselves to bring the disease to a favorable termination, there can be no necessity for administering, in addition, a remedy not universally successful and highly offensive to the taste. I am far from denying the sufficiency of the common remedies in ordinary cases of dysentery; like most practitioners I have myself, over and over again, seen them prove entirely successful. But the point at issue is not, whether these means will generally be sufficient, but whether it would be prudent or right to trust to them alone in *all* cases; and whether we should not do better, even in ordinary cases, with, than without the copaiba. As every one must be aware, dysentery sometimes proves intractable to the most favorite plans

of treatment and approved medicinal agents. Now, no one will deny that it is necessary to have recourse, under those circumstances, to additional means, before we can shorten the disease and afford effectual relief to the patient. If such be the case, there can certainly be no necessity to dwell on the propriety of making trial, when other remedies prove insufficient, of one recommended by high professional authorities, and which, from a consideration of its known effects in other mucous inflammations, we are naturally induced to conclude, may prove beneficial in the disease before us. While the question of the greater advantage resulting from its use even in ordinary instances,---in those that may generally be cured by the usual plans alone, resting on authorities which, to say the least, are as good as any that can be brought in opposition,—is not to be set at rest by the mere expression of doubt, or by an assurance of the sufficiency of such plans, but by a comparative survey of the results obtained with and without the remedy.

But even in cases in which depletion has been premised to reduce the force of the inflammation, some discrimination is necessary as regards the employment of the copaiba, because, although in general nothing contra-indicates its use so soon as the above object is attained, instances occur wherein the remedy would be likely to give, and has given, rise to effects of a different character from those anticipated, and which may forbid its continuance, or render additional means necessary. The generality of writers who have used this remedy in dysentery, are accustomed to speak in a rather vague manner of its usefulness in certain forms or stages of the latter; and though it is sometimes remarked that it disagrees with the patients, producing nausea, uneasiness, vomiting, and even aggravating the fever and the symptoms for which it is prescribed, nothing is said of the phenomena which may serve to indicate beforehand that it should be abstained from, or the condition of the organs on which such phenomena depend. And yet precise information on this subject is greatly desired, inasmuch as cases may occur in which, although the copaiba had given rise to those symptoms, it may nevertheless be persevered in, provided auxiliary means are used; while in others it would be proper to discontinue it at once. A few words on this subject may not be inappropriate in this place. In some cases the effects in question, nausea, vomiting, &c., depend on a simple nervous irritability of the stomach; itself the result of the existing disease, or of a peculiar idiosyncrasy in the patient. That such is the case cannot be doubted; for these effects sometimes occur under circumstances which forbid our referring them to any other cause. In cases of this kind, the gastric irritability, if it be a simple accompaniment of the disease, manifests itself whenever food, drinks, or medicines are introduced into the stomach, and, if severe, will contra-indicate the use of the copaiba, for, if excited by articles of a less offensive character, it is but fair to expect it will be greatly increased by the one in question. In some instances, however, where this irritability is great, and in many others where it is moderate, the copaiba, if used with laudanum or aromatics, or bitters, will be made to sit upon the stomach; and may be prescribed with impunity, and even with beneficial effects.

But though the symptoms mentioned depend often upon the cause assigned, cases occur in which they are evidently the consequence of a more serious condition of the gastric organs—inflammatory irritation. In dysentery, the latter is more frequently encountered than is generally supposed; and in cases in which the stomach itself is not so diseased, it is not rare to find the nausea, vomiting, fever, &c., produced or increased on the administration of the copaiba or other remedies of similar character, are kept up by vascular irritation of the upper portion of the small intestines. It cannot be necessary to enumerate here the signs which serve to distinguish this condition of the gastric organs from simple nervous irritability. Suffice

it to remark, that, in every instance in which they manifest themselves without a possibility of being referred to copaiba, the latter should be abstained from; whereas, when they follow the use of this medicine it should be discontinued, and recourse had to the means calculated to check, as speedily as possible, the morbid state on which they depend.

Judging from what I have had occasion to observe, I think I may safely say, that the balsam of copaiba is as serviceable in the secondary stages of acute dysentery as in the chronic form, and that it will be found particularly useful when the stools are rather copious, and contain a large proportion of mucus, or glairy matter mixed with blood. When the griping and tenesmus are still very severe, it will be necessary to combine the medicine with a suitable portion of opium; otherwise it may be used without, in an aromatic mixture,—in cold water, or in an emulsion. The opium may also be required if the copaiba disorders the stomach, and if this effect can justly be attributed to the simple irritability of that organ. In general it is advisable to give the copaiba in moderate and repeated, rather than in large doses, as it is thus less apt to produce griping pain, to purge, and to increase fever. But whether the quantity be large or otherwise, no time must be lost in suspending the remedy, and restoring to antiphlogistics, emollients, and narcotics, whenever symptoms of increased gastro-intestinal irritation and febrile excitement supervene.

The following cases, selected from several of which I have preserved notes, will confirm what has been said of the effects of the copaiba in dysentery.

Case I.—Mr. A——, aged about forty years, of a sanguine, bilious temperament, and generally enjoying good health, requested my attendance in March, 1830. I found him laboring under the usual and well known symptoms of acute dysentery--frequent stools, attended with severe griping pains, and violent tenesmus.—His skin was dry and hot, tongue pointed, red on the edge and tip, and furred in the centre: pulse quick and active. Besides these symptoms there was thirst and nausea. The matter voided was small in quantity, and consisted, for the most part, of slimy mucus, combined with a tolerably large portion of blood.—The urine was scant; but, owing to its being passed with stools, could not be inspected. Finally, pain was occasioned by pressure of the abdomen, and particularly of the epigastric region, as well as by the movements required to get in and out of bed, or to turn from one side to the other. These symptoms had come on suddenly during the preceding night; were preceded by slight chill, and were apparently the result of exposure to cold.

It is not deemed necessary to present here a detailed account of the variations in the symptoms which occurred daily during the course of the disease, or of all the remedial means resorted to in succession or simultaneously. Let it suffice to remark that viewing the disease in the light of an inflammation of the large, and of a portion of the small, intestines,—considering likewise that the lining membrane of the stomach was, to a certain extent, implicated,—depletion, both by venesection and leeches around the anus and at the epigastric region, was promptly and repeatedly used. To this were added tepid hip baths, emollient cataplasms over the abdomen, emollient and slightly anodyne injections, sweetened and acidulated gum, barley, and flax-seed water. Under this plan the irritation of the stomach was soon so far allayed as to allow of the exhibition of small and repeated doses of ipecacuanha and opium; Dover's powder with calomel at night; and mild purgatives in the morning.

By these means the violence of the dysenteric inflammation was in a short time subdued,—the fever abated,—the tongue lost its redness and became moist,—the abdominal pain lessened, and the skin became softer. But although from these circumstances it was evident the patient had much improved, and yet the disease was far from being effectually checked; for the

griping, and particularly the tenesmus, continued troublesome: the matter discharged presented pretty much the same appearance as before, and the pulse remained quicker and the skin warmer than natural.

Under these circumstances I determined to make trial of the balsam of copaiba, the efficacy of which, in diseases of other portions of the same tissue, I had had frequent occasions to observe, and the utility of which, in the present complaint had been, as I knew, recorded by Dr. Pemberton, Dr. Cheyne, and other writers of equal character. Twenty drops of this remedy, combined with eight of laudanum, were directed to be taken every four hours in two table-spoonfuls of mucilage. The fomentations on the abdomen, emollient injections, tepid baths, were continued, and light farinaceous nourishment was allowed. With this plan the patient had every reason to be pleased, for in a very little while the tenesmus began to give way, and finally disappeared entirely; the stools, though still somewhat frequent, lost their unhealthy appearance; the urine was passed in much larger quantity than before, and was evidently impregnated with the copaiba;—in short, the patient was relieved of all the most urgent symptoms under which he had labored. His appetite gradually returned, his digestive functions were restored, his strength increased, and in a few days he acknowledged himself to be as well as he had been for years past. A flannel roller was applied around the abdomen; and although the weather was unsettled, and the temperature rather low, he soon left the house, and resumed his ordinary occupations.

It may be proper here to remark, that this gentleman experienced an attack similar to the one just described some years before, and was treated on the depletory and evacuating plan. According to his own statement, the tenesmus and griping continued much longer, and the convalescence was much more protracted on that occasion than on the present. In 1832, he once more came under treatment for the same complaint, brought on by exposure to cold and rain, and inattention to regimen. Yielding to his importunities I administered the copaiba earlier than had been done in the preceding attack. But we had soon occasion to regret this precipitancy, for the stomach being still in a state of irritation and the fever high, nausea, vomiting, pain and weight in the abdomen, and other unpleasant symptoms soon supervened, and compelled a discontinuance of the remedy. As soon, however, as the mischief thus occasioned, and the morbid state on which it depended had been properly corrected, the copaiba was once more resorted to, and proved as successful as it had done before.

Case II.—Casimir L., a colored man, aged about fifty years, and of a delicate and sickly habit, applied to me for advice in September, 1830. He labored under the ordinary symptoms of acute dysentery; and informed me that the disease had come on two days before, and had greatly increased since the evening previous to my visit, and soon after his taking a large dose of rhubarb. Without dwelling on the details pursued in this case, I shall merely state that, the evacuations being frequent, the tenesmus violent, the fever high, and the pulse tense and accelerated, the patient was as copiously bled, both generally and locally, as his strength permitted. He was freely purged with castor oil, magnesia, and epsom salts; and immediately after put under the use of ipecacuanha and opium—to say nothing of internal and external emollients. On the third day, finding that the intestinal disease continued with but slight mitigation, that the tenesmus did not yield as rapidly as was desirable under the use of narcotics, and that the loss of blood was no longer admissible, blisters were applied to the inside of the thighs, and anodyne glysters pushed high up the rectum through the medium of a gum elastic tube. As soon as by these means the inflammation and fever had been sufficiently subdued, the copaiba mixture, with the addition of opium was prescribed, and was not long in producing the desired effect; for under its use the tenesmus, together with the rest of the symptoms enu-

merated, gradually, but completely, disappeared, and the patient was restored to his usual share of health. The convalesence in this case was more tedious than in the preceding, owing probably to the delicacy of the individual, who continued for some time subject, from the least exposure, to intestinal derangements. From these, however, he was invariably relieved by a dose of magnesia or castor oil, followed up by a few drops of copaiba and laudanum, and aided by abstinence from animal food.

Case III.—The subject of this case was a lady, thirty-seven years of age, of a week constitution and nervous temperament. She had labored, during some years previous to the present attack, under the dysmenorrhœa and other irregularities of the menstrual functions, for which the tincture of guaiacum, and other remedies of a kindred nature were prescribed. But as they invariably occasioned, even when given in small doses, irritation of the bowels, attended with dysenteric symptoms, they were at first temporarily suspended, and finally discontinued; leeches, opiates, tepid baths, and other palliatives being alone resorted to. These circumstances are mentioned to show the unusual degree of irritability of the intestinal surface in this case, and the caution it imposed as regards the administration of medicines of a stimulating or irritating character, as well as to account for the obstinate nature of the disease about to be described, and the disappointment experienced in obtaining from the remedies used their customary effects.

In the month of July, 1831, this lady was seized with symptoms of acute dysentery, accompanied with high febrile excitement. Antiphlogistics, emollients, and narcotics; bleeding, both general and local; tepid baths, cataplasms, and injections; together with mild purgatives, and ipecacuanha and opium, were resorted to. The former, however, were not carried as far as was desirable,—considering the frequency of the evacuations,—the severe nature of the griping and tenesmus, and the high arterial excitement—in consequence of the prejudices of the patient, and of her great nervous irritability, which was aroused to an unusual degree, and appeared to be aggravated by every fresh loss of blood. For these reasons, and owing to purgatives seeming to do more harm than good, opium was more freely administered than is commonly done, both internally, (by the mouth, and in the form of injections,) and externally. Chief reliance, indeed, was placed in this medicine, aided by emollients.

Under this plan of treatment, progress towards recovery was, as may be supposed, much less rapid than it would have been had it been possible to use more active means. Nevertheless, though the tenesmus continued troublesome and the dejections frequent, slimy, and tinged with blood, amendment in other respects was obtained. The febrile excitement, the abdominal pain, and other inflammatory symptoms, being somewhat lessened, and the stomach apparently free from irritation, the opportune moment seemed arrived for resorting to means specially calculated to put a stop to the dysenteric symptoms. With this view the copaiba was administered in small doses combined with opium. But the expectations placed in its effects were not realized; for under its use the stomach became deranged, and the intestinal complaint aggravated. It was consequently laid aside, and sugar of lead and opium, as well as Hope's mixture of camphor water, nitric acid, and opium, substituted; but with no better effect—the dysenteric symptoms continuing with little or no abatement, and assuming the chronic form.

As it appeared from these circumstances, that no advantage, but rather positive injury, was to be expected from active remedies, or at any rate that the gastro-intestinal organs were not as yet placed in a proper condition to bear their impression, the treatment was once more limited to emollient injections, tepid hip baths, demulcent drinks, opiates, and light farinaceous diet; to which were now added occasional doses of blue pill. After pursuing this plan for some time, it was perceived that, though some amend-

ment in the more urgent symptoms was obtained, it was not sufficiently great to encourage the hope that a speedy stop would be thereby put to the disease; or, indeed, that the means employed could act otherwise than as palliatives. Recourse was therefore had to other remedies; but with the same want of success which had attended previous trials. At length the copaiba was once more tried, and administered with laudanum in cold cinamon water. Finding that it no longer produced the baneful effects above mentioned, and that the gastric derangement occasioned by it was slight and transient, it was continued for some time,—the dose being increased gradually from fifteen to twenty and twenty-five drops three times a day. Under its use the disease gradually gave way, the patient was allowed more substantial food, a flannel roller was applied around the abdomen, moderate exercise was enjoined, and at the expiration of a few weeks she was completely restored to health.

It is scarcely possible, that in this and the preceding cases I should have attributed to the copaiba a benefit referable to the powers of nature or to the other means used, inasmuch as before it was prescribed, the change, in neither instance, had been sufficiently great to lead to the expectation that the disease would disappear without the further interposition of art. Whereas the amendment obtained during its employment was much more striking and lasting than that derived from the previous means; and during the time it was used, no other remedy, likely to contribute in a powerful and prompt manner to a favorite result, was exhibited. Abstinence from solid food, and a restriction to small portions of light farinaceous diet, will, no doubt, produce a very happy effect in dysentery and other abdominal diseases, and there can be but few physicians who have not seen cases in which this simple plan has been sufficient to effect a cure without the aid of any remedial agent, properly speaking. But it is, at the same time, very certain that, except perhaps in very mild cases, it would be unsafe to rely exclusively on this plan in acute dysentery, even after the inflammation has been subdued. It is only suitable in the really chronic form of the disease, and in all instances the effects alluded to, when obtained, are slow in being evinced. As regards opium, which, we have seen, was prescribed freely in the above cases, and without the aid of which one has yet to learn how dysentery can be treated, it is only necessary to remark that, however useful it may prove as an auxiliary, we may doubt whether it can ever alone cure the disease when the inflammation which remains, notwithstanding the free employment of depletory means, is somewhat severe. If, while we use it, the disease disappears, the effect must be attributed in great measure to the powers of nature, which, as we know, are sometimes alone adequate to the task, or to the other remedies simultaneously employed. At any rate, in admitting that the powers of nature and opium are alone sufficient to relieve the patient completely of the disease under which he labors, or that the latter remedy can prove the efficient agent, it is presumable that the cure will not be effected promptly; and that time will be required before the disease gives way entirely. Now, in the above cases, although the irritation was not violent, relief was soon procured, and the cure was completed in a short time after the copaiba could be readily tolerated by the stomach and small intestines. It may be remarked, in conclusion, that the cases above described serve to confirm the opinion expressed in reference to the necessity of the stomach being free from irritation, and of the febrile excitement being moderated before the copaiba can be used advantageously. A neglect of these circumstances during the second attack under which the subject of the first case labored, led to injurious consequences; while, on the contrary, as soon as the gastric irritation was subdued, the copaiba was used successfully. In the second case, the subject of which was throughout remarkably free from stomach affection, the copaiba was advantageously employed as soon as the inflammation had been subdued. In the third, again, the gastric

and intestinal organs being inordinately sensitive, it was some time ere the remedy could be employed; yet, as soon as this morbid state was relieved, the desired effect was obtained. It may be thought that I have not attributed sufficient influence to ipecacuanha or to purgatives, and that had I used them more freely, the copaiba might have been dispensed with entirely, or, at least, that the patients might have been more quickly relieved. On this subject I must be allowed to entertain a different sentiment, and frankly to admit that I have not yet been made sensible of the advantages resulting from active and repeated purging in dysentery. That the bowels should be freely emptied of their contents at an early period of the attack—depletion, general and local, being premised if the inflammation runs high,—is a fact I am not disposed to dispute. Nor does it appear less proper, that they should be kept open throughout the course of the disease, with a view of allaying the griping and the tenesmus. But in order to meet these indications there can be no necessity for repeated and active purging, as the first can be met by a mercurial cathartic or two, followed by a few doses of some mild aperient; while the frequent use of emollient injections will in general suffice to keep up a soluble state of the bowels. Indeed, while this plan is equally efficient in clearing the intestines of all irritating matters, it is superior to the other in occasioning less distress to the patient, and in being less likely to aggravate the disease or retard recovery. In order to produce the evacuant effects expected from them, purgatives must pass along the whole tract of the alimentary canal—over the diseased as well as the healthy portions—and there occasions an impression of greater or less force according to the degree of their activity; or they are absorbed into the circulation, and operate on particular portions of the tube for which they have an affinity. In either case the effect must be of a stimulating character, for the secretory process is greatly promoted, and the peristaltic action of the intestines excited. If such be the case, it can scarcely fail to follow, that active purgatives will often, particularly if frequently repeated, occasion more distress and annoyance to the patient, as well as more irritation of the inflamed surface, than is safe, or is compensated for by the evacuation of fluid. They may thereby tend to aggravate, or at least to keep up the disease, and should therefore give way to the employment of the other means above mentioned, which either act mildly, or, as in the case of injections, operate on the diseased parts, and, while emptying them of their irritating contents, tend to assuage pain and hasten recovery.

In respect to ipecacuanha, though I think highly of its effects, either when used alone or in combination with calomel or opium or both—particularly in acute dysentery, I am not prepared to rely exclusively upon it in all stages of that disease, or in the chronic form; and whenever the violence of the disease is moderated, I have for many years been in the habit of substituting other means, under the impression that they proved more successful. These opinions will doubtless excite the censure of many of the readers of this Journal: for I am aware that a large portion of the members of the profession in this country have formed a different estimate of the virtues of purgatives and of ipecacuanha in dysentery. But so fully persuaded am I that the plan of treatment advocated in these pages, and which could be shown to have the sanction of high professional authorities, is, to say the least, as successful as the other, and indubitably less distressing to the patient, that I have little doubt, much of the opposition it may encounter will cease the moment it is put to the test of actual experience.

Diarrhœa.—The next subject to which I shall call the attention of the reader, is the effects of the copaiba in the treatment of diarrhœa.

When and by whom the practice of resorting to this remedy originated I shall not attempt here to determine. It will be sufficient for my present purpose to show, by a brief reference to a few writers within my reach, that for more than a century it has been countenanced by practitioners of deserved reputation, and by some of them warmly recommended.

In his work on copaiba, which was published as early as the year 1710, Hoppe speaks of its use in diarrhœa, in a way to indicate that the practice was common at the time he wrote. Nor was it neglected at a later period. It has been already stated, that Dr. Pemberton recommends it in those cases of dysentery in which the disease, having continued for some time, has assumed the form of chronic diarrhœa and is attended with exudation of mucus and blood, occasional griping pain and tenesmus. The same writer also used it, both by the mouth and in the form of injection, in cases in which he was led, by the offensive smell and curdled appearance of the discharges, to suspect that there existed ulcerations in the large intestines. Hallé in his notes on Tissot, and also Nysten, speak in favorable terms of the copaiba in atonic diarrhœa. Richard regards it as an advantageous agent in the chronic form of the disease when the mucous membrane is the seat of slight inflammation; and Barbier of Amiens also speaks favorably of its effects in some varieties of the same disease. Dr. Good recommends it, in a particular manner, in that form of diarrhœa in which the discharges consist more or less of membrane-like tubes, whitish, viscous and inodorous. He remarks, that the copaiba has proved still more serviceable in such cases than the milder preparations of mercury, which he thinks are very useful. "When in this disease I have not been able to induce the patient to take it by the mouth, I have recommended it in the form of injections. In one case, in which I prescribed it in this form, three drachms intermixed with three ounces of mucilage of linseed being thrown up three times a day, it proved eminently useful." Dr. Copeland also advocates its use in the chronic form of simple mucous diarrhœa, and in cases complicated with, or depending on, the ulceration of the intestines.

Among the physicians of our own country we find, so far as my memory extends, but a few by whom the copaiba is spoken of as an useful agent in the disease in question. Indeed, I believe, that of the writers of note, Dr. Eberle, again, forms an exception on the subject. In his work already quoted (ii. 305,) he remarks that in obstinate cases the internal use of that remedy will sometimes do much. Differing, however, from some of the writers already mentioned, he does not think it probable that it can procure any permanent relief in cases attended with ulceration of the intestinal mucous tissue. Yet, in cases of this kind, he has known considerable temporary benefit derived from this article. In a case of chronic diarrhœa, of upwards of six months's continuance, and depending, as Dr. E. thinks, on simple chronic inflammation without ulceration of the mucous tissue, he succeeded in effecting a perfect cure by means of copaiba, given to the extent of from thirty to forty drops three times daily, and fifteen drops of laudanum with each dose.

Such being the views entertained by high professional authorities abroad, relative to the remedial agency of copaiba in diarrhœa, and such the neglect it has met with at home, I shall offer no apology for devoting a few pages to the consideration of the subject, by laying before the reader the details of several cases, and a few remarks suggested by the phenomena presented.

Case I.—A case answering to the description given by Dr. Good, of the tubulated form of diarrhœa, and bearing some resemblance to those, of which an account was published by Dr. Powell in the sixth volume of the Transactions of the London College of Physicians, came under my immediate notice a few years ago. The patient, a female, aged about forty years, had been subject, occasionally, for sometime back to a slight derangement of the bowels. The attack in question had come on suddenly, and had rapidly assumed a serious character. When I first saw the patient she had not left the house for several weeks; during which time she had taken a great variety of family medicines. She complained of pain along the arch of the colon, and about the umbilicus. The pain was occasionally very severe and griping, but was not excited or increased by pressure. The stomach was

irritable; there was some fever, and the tongue was pasty. The alvine evacuations were not very frequent, but consisted, in great measure, of thin unhealthy feculent matter, mixed up with a large portion of a substance which was at first supposed by the friends, and attendants to be worms, and subsequently by some persons the internal lining of the intestines; but which evidently consisted of flakes of coagulable lymph. Leeches were applied around the anus and over the epigastric region—the diet was restricted to small quantities of farinaceous articles; and tepid baths, opiates, alterative doses of blue mass, with rhubarb and ipecacuanha, were successively prescribed. But, although by these means, the pain and irritation were allayed, yet little impression was made on the diarrhœtic symptoms—the discharges continuing as frequent as before, and containing the same albuminous flakes. It was in consequence thought advisable, with a view if possible of expediting the cure, to resort to additional means; and selection was made, at my suggestion, of the copaiba. It was administered both by the mouth and in the form of injections, as recommended by Dr. Good. Under the use of this medicine the disease gradually gave way, and in a few weeks the patient was restored to health.

I am disposed to attribute the largest share, if not the whole, of the benefit obtained in this case to the copaiba, because during the time it was used, no other article likely to exercise an agency in the cure was resorted to, and before it was prescribed the amendment obtained was not such as to justify a belief that the disease, if left to itself, would terminate favorably in so short a time.

When on this subject it may be proper to remark, that Dr. Powell is of opinion, there was no evidence, in the cases of which he has given an account, of an inflammatory process going on, as the pain was rather of a spasmodic nature, and the skin and pulse were natural. With due deference, however, to the pathological knowledge of Dr. Powell, others may be allowed to suspect that in the present instance he has not adopted a correct view of the subject. To this opinion we are led by the circumstance, that when exudations of coagulable lymph occur in other portions of the mucous tissue, they are found to be the product of inflammation. They occur in dysentery, in croup, &c., which are undoubtedly inflammatory diseases; and experience has fully shown that inflammation, even of vital organs, is not necessarily accompanied with fever and hot skin. But, however, it may be in regard to the cases which fell under the notice of Dr. Powell, there can scarcely be any doubt that in the instance just described the complaint depended on inflammation. The state of the skin, the febrile excitement, the abdominal pain, the furred and pasty tongue, and the effect of the treatment—to say nothing of the character of the matter discharged—indicate that such was the nature of the disease. Nor can this view be invalidated by our knowledge of the stimulating property of the copaiba: the facts already detailed in this communication, as well as others to which I shall advert presently—to say nothing of its use in gonorrhœa and other diseases—demonstrate that the same remedy is used with unequivocal success in cases depending on inflammation. Dr. Powell relies principally on purgatives—senna tea, combined with infusien of gention and liquor of potasse. From such remedies, however, it is not probable we can obtain any other effect than the evacuation of the coagulable matter;—supposing, indeed, that purgatives will not be sometimes apt to aggravate the disease. By those who entertain views different from those of Dr. P. relative to the pathology of the disease, and who are sensible of the mode of operation of purgatives, it will be readily admitted that it would be more rational to resort to such means as are calculated to remove the cause of the exudation, by changing the action of the secerning vessels, than to trust to those that act principally as evacuants of the bowels.

Case II.—*Mucous Diarrhœa.*—A gentleman applied to me a few years

ago for advice. He had recently returned from India, and had labored, during nearly the whole passage, under bowel derangement. At first the disease was attended with pain, and, as far as I could ascertain, with considerable fever. But whatever might have been the case at first, these symptoms had in greet measure subsided at the time the patient came under my observation; for the skin, though dry and harsh to the feel, was rarely preternaturally hot, the pulse was but moderately excited, and the pain was seldom if ever troublesome. The stools were very frequent, and consisted of a mucous-like substance, with very little bile, and a small portion of feculent matter, and occasionally contained a fluid having the appearance of pus tinged with blood. The patient was emaciated, and labored under depressed spirits—the abdomen was tense and hot, the stomach was not much implicated, and the urine was passed in small quantity, and of a red color. The disease had come on after exposure to wet and cold, and was probably aggravated and kept up by improper treatment and diet.

Believing from a review of the symptoms enumerated that the disease depended on chronic inflammation of the lining membrane of the intestines, and fearing the existence of ulceration, I had recourse to antiphlogistic means, leeches around the anus, and cups over the abdomen; followed by ipecacuanha and opium, alterative doses of blue mass, tepid baths, diluent drinks, and emollient injections. Under this plan, the evacuations gradually lessened in frequency, and the skin lost, in a great measure, its harshness and dryness. But though some amendment was thus obtained, the disease was not arrested; the evacuations continuing to present the same unhealthy appearance both as regards the color and the consistence of the matter voided. Under these circumstances, and expecting little further benefit from the remedies already used, it was thought advisable to make trial of others of a different character. With this view the balsam of copaiba was prescribed in doses of twenty-five drops three times a day, with from five to ten of laudanum in each dose according to circumstances, in a wine glassful of cold camomile tea. Finding that the remedy did not disagree with the stomach, and that the effects on the bowels appeared from the first, beneficial, it was persevered in—the dose being gradually increased, and light nourishment at the same time enjoined. At the end of about a month the patient was restored to health.

Whether in this case the diseased membrane was the seat of ulceration is a point upon which I am not prepared to express a decided opinion; although the appearance of the dejections, as also the long duration of the disease, may probably be thought to justify an opinion that such was the case. This leads me to remark, that I am not disposed to join Dr. Eberle in the opinion that the copaiba though *capable of relieving*, cannot *cure* diarrhœa attendant upon ulceration of the bowels. It is well known that these ulcerations are curable, and cases in which they are thought to occur are cured, by the same means which succeed in those in which they do *not* exist; hence it is very difficult, if not impossible, to decide positively during the continuance of the disease, whether or not they are present. When we bear these circumstances in view, and remember besides, that it is admitted the copaiba may afford *relief* in such cases, it is difficult to discover what are the grounds for believing that in none of the cases that had got well under the use of that remedy the membrane was the seat of ulceration. Nor is this all. Dr. Eberle admits that the copaiba is excellent in chronic enteritis, and in describing the *post mortem* appearances in that disease, he states that ulceration is the ordinary condition of the mucous tissue of the intestines. By this he seems to involve himself in contradiction, for it is not probable that ulcers exist *only* in cases that terminate fatally. As they are not necessarily fatal they may be presumed to have existed also in individuals who recovered; and if the copaiba had contributed to their cure, there can be no reason to deny that it is adequate to the same task in chronic diarrhœa

which dissection shows is generally accompanied by ulceration, and between which and chronic enteritis there appears to be a distinction without a difference.

But be this as it may, it is not my wish to ascribe to the copaiba the whole credit of the cure in the case last described. The remedies previously employed, aided by proper regimen, had evidently produced much good; they might perhaps have sufficed, in time, to effect the desired object, and had in all probability placed the patient in a situation to get well more readily than he would otherwise have done. But from what we know of the effects of the copaiba in mucous inflammations generally, and particularly the disease before us—from the known protracted nature of such cases when treated by other means or when left to the powers of nature, we may reasonably presume that it was instrumental in shortening the duration of the disease or even effecting the cure.

Case III.—A young female, about twenty-two years of age, applied to me for advice, in November 1834, for the cure of diarrhœa. The disease was of four months standing. The patient was somewhat emaciated—her complexion was sallow, skin dry and husky, pulse weak and frequent. Her appetite was capricious, and thirst troublesome. The abdomen was a little tender to the touch, and the evacuations were very frequent, particularly towards morning and evening, and were attended with severe griping pain, and often with tenesmus. The matter discharged consisted of a small quantity of thin, unhealthy feculent matter, mixed with pieces of undigested food, and a large portion of mucus; the whole generally tinged with blood.

The patient had been, on different occasions, under regular medical treatment, and had besides made use of a number of family and popular medicines; but without more than temporary relief.

Cups were ordered to be applied along the arch of the colon, and over the right iliac region, and blue pill, followed by rhubarb and magnesia, prescribed. To these succeeded small doses of ipecacuanha and opium, lime water and milk; while boiled milk and water crackers were allowed for nourishment. From the local depletion some advantage was obtained; the tenderness and tenseness of the abdomen being a little mitigated. But so far from any benefit being produced by the other remedies, the disease in a few days appeared rather aggravated than otherwise—the stools being more frequent, and attended with more griping, and considerable nausea. The ipecacuanha was discontinued; and, as soon as the gastric distress had subsided, recourse was had to the copaiba, which was administered three times a day in doses of fifteen drops, with five of laudanum, in a glassful of camomile tea; the patient being at the same time allowed at her own repeated solicitation, water crackers, and boiled flour mixed with milk and water for nourishment, and cold toast and water for drink. The evacuations being still attended with pain, and the abdomen tender and tense, the local depletion was directed to be repeated; but this being objected to by the patient, a flannel roller and emollient injections were substituted.

From this plan a sensible amendment was obtained before the end of a week. The stools were reduced from ten or twelve, to four or five in the twenty-four hours, and the griping, though still troublesome, was lessened in degree. The copaiba was increased to twenty-five drops three times a day; and at the end of another week the patient reported that the evacuations were reduced to two or three in the twenty-four hours, and were attended with less pain; that the matter discharged was of a firmer consistence and healthier appearance; and that her appetite was good and her thirst less troublesome. The remedies were directed to be continued; but in diminished doses.

The disease continued with but little further abatement until about the 1st of December, when the intestinal derangement appeared to yield; the appetite became better, the stools were reduced to two, at most, in the

twenty-four hours; the matter evacuated assumed a very natural appearance. The copaiba and laudanum were still farther reduced in quantity, and more nourishing food prescribed. On the seventh of the month, in consequence of exposure to cold and humidity, the disease was of a sudden considerably aggravated, and was attended with pain and fever; but after a few days it gave way to proper remedies. The copaiba was resumed; animal jelly was allowed; and this was followed, on the twenty-second, by solid food. The medicine was in a day or two discontinued, and on the 2d January, the patient reported that she was now perfectly well.

The agent in the cure of this case is, I think, easily recognized. The quantity of laudanum added to each dose was very small, too much so to exert a decisive effect on the disease, and only sufficient to place the stomach in a condition to support the other medicine. Besides, previous to the time the copaiba was prescribed, opium was administered, in substance and in various of its preparations, by those who preceded me in the management of the case; and the patient had, of her own accord, taken, for several days, repeated doses of laudanum, and never with more than temporary relief. It is not probable, that if of no service as a curative means,—if only beneficial as a palliative, when thus prescribed freely, it can have had the principal agency in the removal of the disease when administered in minute doses conjointly with another medicine. As regards the articles of nourishment that were allowed, it may fairly be doubted whether they could be sufficient to effect a cure in a case of this kind. In mild attacks of diarrhœa, unattended with signs of severe irritation, there is little doubt that a proper regimen will often be sufficient to enable us to attain the object. But when the disease assumes a severe character—when it proves obstinate, it is in general found that other and more active means are required. Considering, indeed, the presence of griping, of tenderness of the abdomen, and other symptoms of the kind, it is probable that more physicians will be disposed to censure the use of such articles as were allowed in the case before us, than to approve of them; and that, therefore, few will refuse to coincide with me in denying to them the principal agency in the cure.

From this it follows that, if the favorable termination of the case cannot be ascribed to the opiates, or to the articles of nourishment employed, we must necessarily refer it to the remedial agency of the copaiba; particularly as its beneficial effects in other instances of a similar or kindred kind have been well ascertained. While the local depletion produced relief but of one symptom only; the purgatives and other remedies employed, if they did not aggravate, at any rate did not arrest the disease; and the flannel roller and emollient injections, though excellent adjuvants or palliatives, are not by themselves adequate to the task of eradicating the cause upon which such diseases depend.

In conclusion, it may be proper to remark, that other remedies, often employed successfully in the treatment of severe and protracted diarrhœa, were not resorted to, partly because the patient objected to them, but principally because it was desired to make a fair trial of the copaiba, the efficacy of which was already well known. Whether this plan was judicious or justifiable; and whether a cure might have been more speedily obtained by other means, can only be decided by those who have made trial of the remedy in questions, and compared the results with those obtained from other modes of treatment.

Case IV.—In a case of feculent diarrhœa which came under my notice in the Autumn of 1833, the balsam of copaiba, though it did not effec ta cure, was sufficiently serviceable to justify an account of its effects. The patient, Mr. J. B, about sixty five years of age, had been for a long while subject to attacks of hemorrhages from the bowels. These came on at irregular periods, and generally continued with longer or shorter remissions

during a day or two. They were considered in the light of a salutary effort of nature to unload the vessels of a superabundant quantity of blood; particularly those of the brain, which had a tendency to fulness, and they were unconnected with intestinal disease. In August 1833, this gentleman was attacked with hemiplegia, and palsy of the tongue; both of which, however, together with the cerebral inflammation which supervened, were removed by active antiphlogistic and revulsive means, and mercurial ptyalism. A short time after this Mr. B. was seized with febrile symptoms attended with considerable determination of blood to the head, which gave way in a few days to depletion and mild purgatives. From this period, however, he remained subject to frequent attacks of bowel complaint, preceded by confusion in the head, and occasionally severe vertigo. The diarrhœa generally continued three or four or even more days, and had the effect of relieving the cerebral derangement. In this respect it may have been salutary; but as the discharges, which consisted of thin feculent matter, mixed occasionally with a large portion of blood, were at times frequent and copious, they finally produced considerable emaciation and debility. In consequence of this it became necessary to restrain these attacks within safe limits, without, however, putting a stop to their return, and thereby losing the advantage of the derivative action they occasioned. For this purpose the balsam of copaiba was prescribed, after an ineffectual trial of other means, and was used alone during the intervals of the attacks, and in combination with laudanum when the discharges were carried too far. From this plan, aided by restrictive and appropriate diet, the desired effect was obtained. The bowels were kept in a soluble state; and though Mr. B. continued subject to attacks of diarrhœa, these gradually lost much of their former severity, and came on at longer intervals; while, the cerebral derangement was lessened in force, and the patient improved in flesh and strength.*

As the relief in this case (in which, for the reasons assigned, a complete cure was not attempted) followed immediately after the copaiba was resorted to, and as other means had failed, it cannot be improper to ascribe it to that remedy. But whatever may be the opinion of others on this subject, there cannot be any doubt as to the efficacy of the copaiba in the following case.

Case V.—Miss Isabel D——, aged thirteen years, was attacked, while travelling during the summer of 1832, with looseness of the bowels. The discharges were at times frequent and copious, and attended with some griping pain. But, as the friends of Miss D. were of opinion that the disease arose from, and was kept up by change of water and inattention to regimen, and that it would give way as soon as the subsidence of the cholera, (which then prevailed in this city,) would allow them to return home, nothing of importance was done to check it. In this expectation, however, they were disappointed; for although the patient was placed under medical treatment soon after her arrival, the disease continued with short intervals of respite until the commencement of the following year. Various remedial means---local depletion, revulsives, opiates, alteratives, astringents, chalybeates, tonics, aided by proper regimen, were successively resorted to; but to little purpose. The disease was, it is true, occasionally mitigated for two or three days, or even for a week or more at a time; but it invariably

* Mr. B. adhered with good effect to this plan for some months. Gradually, however, he relaxed in his attention to his health. He indulged in the luxuries of the table; ate copiously, and finally abandoned the use of the copaiba. He refused to resort to the active means required to relieve his attacks of cerebral irritation; which increased in frequency and violence, and produced considerable emaciation. His bowel complaint became very troublesome, and he died in March 1835.

returned with renewed violence—sometimes from imprudence in diet, at others, without any assignable cause. The longest interval of relief was of five weeks continuance; and was apparently obtained through the agency of columbo powder. But as, during the whole of that period the patient was strictly kept on small quantities of cold roasted fowl and stale bread—a regimen which experience had shown to agree with her better than any other; and as her other symptoms were little amended, and as she relapsed whenever a change of diet was allowed, or the medicine was omitted, it may be doubted whether any substantial amendment was obtained of the morbid state of the intestinal tissue, upon which the diarrhœa depended. But, however this may be, after the recurrence of the disease, the remedy above mentioned no longer produced any beneficial effect.

The number of stools was seldom less than six or seven daily; and they consisted generally of dark, thin, offensive, and frothy feculent matter, mixed often with portions of undigested food. In the progress of the disease, the skin became dry and harsh to the feel, and of a waxy appearance; emaciation and debility gradually supervened, attended with thirst, and a feeble and accelerated pulse. The appetite continued notwithstanding nearly as before the attack, and although the patient was usually disturbed once, and sometimes twice in the night unless she took opiates the evening before, her sleep was quiet and refreshing.

Such was the condition of Miss D. when my attention was more particularly called to her case. Finding that none of the remedies heretofore employed had produced permanent relief, and recollecting the salutary effects obtained from the balsam of copaiba in similar complaints, it was prescribed in doses of twenty drops, with three of laudanum, three times a day. The benefit derived from it exceeding my warmest expectation;—the discharges soon diminishing in frequency and improving in appearance. The medicine was increased in quantity, and the laudanum gradually omitted. The patient, who had been kept on the diet already mentioned, was allowed to resume gradually her ordinary food, and experienced no ill effects from the change. She gained strength and flesh; her skin resumed its natural appearance, and in the course of some weeks she was enabled to discontinue the use of the medicine.

When we bear in mind the long standing and obstinacy of the disease in the foregoing case;—the failure of all the remedies employed; the relief obtained soon after recourse was had to the copaiba, and the permanency of that relief;—when, besides, we compare this result with that obtained from the same remedy in the cases already described in the present communication, and in affections of other portions of the mucous membrane, it appears evident that the credit of the cure is ascribable to that agent and to no other. The conclusion is the more natural, as no other remedy likely to produce the effect was employed in conjunction with the copaiba, except laudanum. But as this had failed before being used with the former, though administered in large doses; and as it was laid aside before a cure was obtained, it is impossible to lay much stress on its operation. As regards the regimen, it will be sufficient to remark, that it was similar to that which had been allowed from the time Miss D. was first placed under treatment; and that as it did not succeed in curing the disease before recourse was had to the copaiba, it is not probable it was more effectual at a subsequent period of the attack.

Case VI.—*Chronic Enteritis.*—In speaking in another place* of the efficacy of the balsam of copaiba in disease of the urinary organs, I stated that that remedy could be employed usefully, not only in cases characterised by an increased mucous, or by suppurative secretion; but also in certain varieties of irritation of the lining membrane of the bladder, unattended by

* American Journal of the Medical Sciences.

either of these changes. The following case will serve to show, that in complaints of the alimentary canal dependent upon chronic inflammation, but unconnected with symptoms of dysentery, or of diarrhœa properly speaking, the copaiba will be found, at least sometimes, highly useful.

Miss M., aged about twenty-five years, of a bilious and nervous temperament, had been subject for a long period, to attacks of gastro-intestinal irritation. Late in the autumn of 1825, she exposed herself during her catamenial period, to a current of air, immediately after coming out of a warm bath. The consequences of this imprudent act were soon manifest: she was attacked with chill, followed by hot fever and acute pain in the left iliac region; and the menstrual discharge was suppressed. The pain was aggravated by pressure and the least change of position, and was accompanied by a sensation of weight in the uterine region, frequent desire to urinate, constipation of the bowels, thirst, &c.

Presuming, from this assemblage of phenomena, that the patient labored under peritoneal inflammation; and that the left ovary and the neck of the bladder were probably implicated in the morbid state, recourse was had to active depletion, general and local, emollient applications, diluent drinks, enemata, mild purgatives, and finally to a blister over the parts affected. By these means Miss M. was so effectually relieved, that in the course of a few days she was allowed light nourishment; and soon after was enabled to leave her bed. She did not remain long, however, in this favorable situation; for in a few days she experienced, in consequence of inattention to diet, a return of the disease. This attack was more alarming than the preceding one, inasmuch as, independently of the morbid state already described, she now suffered from an inflammation of the lining membrane of the digestive tube and of the vagina; and, owing to her present debility, it was found impracticable to carry energetic measures to the extent usually required in complaints of this kind.

By means of local depletion, however, proportioned to the strength of the patient and the state of the pulse, as well as of emollient applications, and external revulsives, the most urgent symptoms soon gave way. But the irritation of the intestinal mucous membrane assumed a chronic character, and continued after that of the serous tissue had entirely subsided. The patient now complained of pain between the umbilical and epigastric regions, particularly a few hours after taking food. The tongue was red at the edges, and there was thirst; the appetite though not lost was feeble and irregular. The stomachic digestion was not much impaired; but the intestines performed their functions in a very imperfect manner, being usually costive, at times preternaturally relaxed, and the passage of food through them being attended with pain and considerable flatulence. The skin was pallid, and of a slightly yellow tinge, and became warm and dry towards evening. At other times its temperature was a little above the natural standard, with the exception of the feet and hands which were cold. The pulse was accelerated and small, and there was slight œdema of the face and ankles. The muscular strength was much reduced, and the menses suppressed.

To combat this morbid state of the intestines, moderate antiphlogistics, emollients, alteratives, and a mild regimen were employed, and persevered in for some time; but they failed in making a strong impression on the disease. At this period a medical friend of the family was consulted, who came to the conclusion that the combination of phenomena presented was ascribable to the suppression of the menses; and that this suppression was probably occasioned by a *rheumatic* affection of the uterus. In conformity with this opinion, and regardless of the condition of the lining membrane of the alimentary tube, which he regarded as of secondary moment, and likely to subside as soon as the uterine disease had been eradicated, the vol. tinct. guaiacum was recommended, in teaspoonful doses three times

daily. This remedy was selected on account of its emenagogue and anti-rheumatic virtues, as well as from its having, as was stated, succeeded in the hands of the adviser in several cases of the same kind. Opposition was made both to these pathological views and to the use of the guaiacum; from a fear, that it would aggravate the intestinal irritation, which whether primary or secondary demanded serious attention. However, seeing that the remedies heretofore employed had failed, consent was reluctantly given to the adoption of a mode of practice, which, irrational as it might appear to him and to some of his friends, was enforced with a promise of success by one in whose experience and skill great confidence was reposed. But the hopes thus raised were not destined to be realized, and the guaiacum, so far from displaying advantageously its anti-rheumatic and emenagogue virtues, produced an aggravation of all the prior symptoms, and, in addition, brought on an inflammatory irritation of the rectum, attended with pain and dysenteric discharges.

The medicine was in consequence discontinued, and was replaced by antiphlogistics and emollients, by means of which the patient in a few days, gained the state in which she had been before the recent aggravation of her malady. But though the effects of the guaiacum were thus obviated, no advantage was gained over the original disease, which continued its course with little or no change for some time, when Miss M. was placed under the use of the balsam of copaiba. This remedy was recommended on the ground, that it had been found useful in irritation of the bladder, unattended by a secretion of mucus or puriform matter; that in the case under treatment the inflammation was in all probability situated in the lower portion of the small intestines, and not in the stomach or jejunum.—In its passage down, the remedy would probably be absorbed before reaching the diseased spot—in which case the latter would be placed in the same relation as regards the copaiba, as other and more distant portions of the mucous membranes in the diseases of which it is found useful. Experience had proved it to be often of great service in dysentery and diarrhœa; and if so, there was reason to think that—even supposing it not to be absorbed before reaching the diseased surface—it might be equally efficacious in the present complaint; in as much as it was highly probable it did not act in the former cases in virtue of its astringent properties, but by altering the morbid action upon which the discharges depended.

The copaiba was directed to be taken in cold water, in doses of twenty-five drops twice a day, and to our great satisfaction was found, in the course of eight or ten days, to have produced a marked amendment in the disease. Encouraged by these results, and finding that though the medicine was swallowed with repugnance it did not disagree with the stomach, it was ordered to be repeated three times a day, with the addition of a few drops of laudanum, to guard against its acting upon the bowels. This course was pursued during three weeks; at the termination of which period, the disease having nearly subsided, and the digestive functions being almost restored to their normal condition, the patient was allowed to discontinue the copaiba, and to partake of better fare. A short time after this she was sent to the country, whence she returned much improved in appearance and strength; her catamenia re-appeared, and she was at length restored to the enjoyment of health.

At the date of the occurrence of the above case, I was not aware that the copaiba had been employed successfully in the peculiar form of chronic enteritis, under which Miss M. labored. Since then, however, and indeed since drawing up the preceding account, I have found that the practice, like every other thing under the sun, is not new. In his Practice of Medicine, Dr. Eberle enumerates the remedy among the most useful in such affections. But of Dr. E.'s experience with the copaiba in the management of chronic nteritis I could know nothing in 1825; as he is silent on the subject in his

Materia Medica, published a year or two before, and his other work, above alluded to, only made its appearance in 1830, or 1831. At what period Dr. E. discovered the efficacy of the balsam in such cases does not appear. But, however this may be, the testimony of this distinguished writer is of great value, as it will doubtless serve to settle the question respecting the propriety of the practice.

The balsam of copaiba has been used as a vermifuge medicine; and is regarded by Dr. Ribes and others as highly efficacious for the destruction and expulsion of the different varieties of intestinal worms. It forms a component part of several preparations employed in cases of tænia and lumbrici. Merat and Delens (*Dic. de Mat. Méd.* vol. ii.) state that the copaiba has been efficaciously used by a medical practitioner of Lyons in a case of tænia. But the fullest and most satisfactory account we have on the subject, is recorded by Chauffard of Avignon, in one of the volumes of the *Transactions Médicales* of Paris (13 p. 29 July, 1833.) A soldier of the garrison was admitted into the hospital of Avignon, under the care of Dr. C., for gastric fever. He recovered from this disease in due time. But being affected with gonorrhœa he was retained in the establishment, and put under the use of Chopart's mixture, which contains a large proportion of copaiba. Soon after taking the medicine, he was troubled with borborygmi, accompanied with noise in the abdomen and salivation. These continued during several days; but as the pulse was not disturbed, and the skin was cool, the tongue moist, and the appetite good, those phenomena were attributed solely to the ingestion of the copaiba. Finding that the medicine did not produce any serious derangement, and that the gonorrhœa was getting well under its use, it was continued; and on the eleventh day the patient voided, both to his own surprise and that of the physician, a very long tænia, which appeared to be entire and alive. It is worthy of notice, that the patient had, for a long time prior to the attack of fever for which he was admitted into the hospital, enjoyed good health, and had experienced none of the phenomena usually indicative of the presence of such a worm in the alimentary canal.

Dr. Armstrong suggests the propriety of using, the copaiba in what has been denominated the schirro-contracted rectum, on the supposition that it will keep the fæces in a liquid state—an effect very much to be desired—as the patients are always more easily cured when it occurs. It may he thinks from its specific operation on the lining membrane of the intestines, contribute to induce a favorable change of action on the morbid part itself. How far Dr. A.'s supposition on this subject will be verified by experience I am unable to decide, as I have not had occasion to employ the copaiba in cases such as he alludes to. Nor can I say any thing positive of its use in what has been denominated anal leucorrhœa, or white discharge from the anus (*Hœmorrhoides albæ mucosæ* of some writers.) Montegre, in his excellent treatise on Hemorrhoidal Affections, recognises the existence of several varieties of the anal leucorrhœa, according as the disease is true or inflammatory; false or ulcerous; symptomatic or venereal; acute or chronic. In the first variety—the inflammatory; he recommends antiphlogistics; and when the urgent symptoms have been removed, and the disease has assumed the chronic form, he prescribed *eccoprotic* purgatives, tonics, and finally balsamic medicines, at the head of which he places copaiba.

Montegre, however, prescribes the medicine with no other view than to arrest or lessen the discharge in these cases. But there is every reason to believe that, if it be beneficial at all in hemorrhoids, and of this there can be no doubt, it does not operate solely by virtue of its astringent properties, but by modifying the diseased condition of the tissue on which the discharges depend, and thereby restoring it to the healthy state. The only case of disease approximating to the description given of anal leucorrhœa in which I saw the copaiba employed, occurred a few years ago. The pa-

tient had long suffered under the complaint, and had been under the care of a great number of physicians, both in Europe and this country. The discharge had come on soon after recovery from a scorbutic affection, and was suspected by some to depend on a venereal taint. A variety of general and local means was resorted to in vain. The balsam of copaiba was allowed a fair trial; but although it seemed at first to diminish the discharge, and to modify its nature, it soon lost its effects, and was in consequence laid aside.

I can speak with more confidence of the efficacy of the copaiba in piles. On this subject, neither Montegre, Larroque, nor Calvert say a word. The last writer, however, remarks that in some forms of the disease, cubebs and *other remedies of the sort* are useful, and among these we may perhaps suppose that copaiba is meant to be included. But if the writers we have named are silent on this head, others speak in decided terms of the good effects of the remedy in the disease in question. The late Dr. Cullen was in the habit of prescribing it with, as he informs us (Mat. Med. ii. 135 Am. ed.) great advantage. He derived the practice from an empirical practitioner. Motherby states that the copaiba gives relief; Parr that it is occasionally trusted to; Mr. Brande that it has been found effective; Dr. James Johnson that it is a valuable remedy in the disease in question. With the late Dr. Kuhn of this city it was a favorite remedy, and among our present practitioners there are, to my certain knowledge, several who will willingly join in the opinion that it sometimes proves highly serviceable. To specify the kind of cases in which it is more particularly applicable, and to point out the manner in which it operates, are undoubtedly objects of considerable interest to every physician. But on these subjects I cannot at present say more than a few words. Judging from what I have had occasion to observe myself, or from all I have heard, I am disposed to say, that when there is much vascular irritation in the parts, the copaiba will not be as useful as when this morbid state has been reduced by antiphlogistics, and the discharge consists in part of mucus. Dr. Good entertains the same opinion, and remarks that he has often tried the remedy in the disease—probably in the other varieties—without benefit. Dr. Cullen, though he does not express himself very positively on the subject, seems inclined to ascribe the benefit he obtained from the copaiba to the laxative operation of this medicine. While Dr. Good, from numerous trials, is induced to ascribe its salutary effect rather to the common principle on which it acts on the mucous membranes generally, than to the above mentioned power. On this point I have no hesitation in coinciding with the last mentioned learned physician; both on account of the effects obtained from the copaiba—without its operating as a laxative—in diseases of the mucous membranes of the lungs, bladder, and intestines; and in consequence of finding that in hemorrhoidal cases, in which it has proved eminently serviceable, laxative medicines had been used unavailingly; and that it has afforded relief without increasing the alvine evacuations.

Contagion and Quarantine.

It is not a little surprising to see how slow the world is in receiving some of the most palpaple truths; whilst a mere speculation, a hoax, or any thing which has about it the charm of novelty, will, like a swift epidemic, flash over the world, even if it mark its way by famine, pestilence, and death. We acknowledge with regret, the fact, not only in politics, in religion, and in commerce, but also in medicine and all sciences of capital importance We know not how to account for it, consistently with our hopes and desires relative to the character of the human intelleet. But there has always been evinced a strange willingness to receive opinions or assertions from ancestry as we would fortunes, without examination or care relative to the manner in which they were obtained. Perhaps these opinions are early imbibed from those authors or teachers whom we respect, and in whom we confide, before our own judgment is sufficiently developed for their rigid scrutiny; and having once adopted them, pride comes in the way of a just and fair criticism, and party spirit is finally aroused to their support. Or perhaps we are too lazy to undertake the exercise of our own reasoning from the evident or established facts in the premises.

In this way the world has always been, relative to the contagiousness of many diseases. And such has been the weight of numbers and character in the maintenance of the doctrine of contagion, relative to many diseases which were not so, that few have ventured to come forward with noble independence, and proscribing former mere assertions, appeal to simple facts and draw from them proper conclusions. Yet in almost every age and country, there has been a small minority who have been honest and hardy enough to go in advance of popular opinion, and occupy the firm ground of demonstrated truth, but they have been as the distant islands of the sea, or the oases of the desert, isolated and lonely. Still, such is the power of truth, though opposed for a time—though contemned, abused, and ridiculed, and every inch it claimed contested to the last extremity of power, with the help of time, great labor and new generations, and the continued pressure of misfortunes, it has been able to prevail to a good extent in particular cases. But great and systematic men seldom live to witness their own glory in the extensive prevalence of those truths which they have descried far ahead of the common mind; yet when the nobler faculties are early developed, and life protracted through many septenniads, it is sometimes the case, to a considerable extent; whilst on the other hand, the author of a false, but fanciful and captivating doctrine, will often live to reap and enjoy for a time his ill-earned

honors, and, witnessing their latter end, sink into oblivion. Instances of the former are found in our own Rush, the choice home spirit of the past age; and in Dr. James Johnson, the great head of foreign medical mind of the present. The former determined for himself the fact of the non-contagiousness of yellow fever, and lived to see the mighty inroad which he had made into the policy of quarantine, against yellow fever; and, seconded and sustained by converts to the truth of his doctrine in Europe and America, who were willing to test the great truth, by even swallowing the black vomit from this disease; this truth, we had hoped, pervaded the civilized world until we witnessed, during the past year, the trammelling of commerce again by quarantine against Charleston on account of the prevalence of yellow fever in that afflicted city during the past season.

A somewhat similar ground has been occupied by Dr. Johnson, relative to Asiatic cholera, who has lived to witness the prevalence of the truth of his position. But several circumstances have tended to assist him in an easy and early arrival at this consummation. Rush had pinionered with much success in the almost untravelled region of non-contagion—the way was open in regard to one disease, and the public mind somewhat relaxed from its tensive grasp on the error of contagion. Besides this, the opposition in India, when his sentiments were first adopted, was inconsiderable; whilst his character at home, for accurate judgment, was fair, and without the opposition of claims on alleged facts of experience, as the cholera had not yet pervaded England. Still, however, when it did appear, a storm of contention from benighted Russia, with its more pestilential breath reached Sunderland, and for a short time, spread dismay over the great metropolis. But, as after the first shots in battle, the dismay soon passed over, and the public mind received the dignity of truth for which it had been so well prepared. We are pleased to witness these conquests of truth over error, not only for the honor of the human mind, but for the benefits of commerce; and above all, for the good of humanity. It would be behind the advance now occupied by the enlightened and liberal minds of the present day to enumerate the injuries to humanity which necessarily attach to, or rather result from, the fact, or the mere idea of contagion. Let it suffice, to say, that there is no promise of success in preventing or curing a disease, the cause of which is not understood to some good extent; and that, whilst the attention is captivated and absorbed by the cry of contagion, all other sources of causation are neglected. There are yet many other diseases for which, from the foul charge of contagion, humanity cries aloud to the mental energies of the land. And we trust that those who are within the call will not be backward in coming up to the rescue. Meanwhile we extract from the proceedings of the British Association for the ad-

vancement of science, as contained in the Eclectic Journal from the Athenæum, the observations of Dr. Boring on Plague and Quarantine, as follows :—

Dr. Boring apologised for coming before the Section, he not being a medical man, but having travelled in the East for the purpose of observation in reference to our commercial relations, his attention had been naturally directed to the subjects of plague and quarantine—subjects the importance of which could hardly be overrated, many millions being annually lost to this country from quarantine regulations. The results of his observation had produced a strong conviction of the non-contagion of plague; and he thought it right therefore, to lay before this Section a few remarks on the subject. He alluded to the very secondary character of the facts, on which the prevalent opinions were founded. Some were so absurd as not to be worthy of the slightest attention: such as plague being introduced at Leghorn, by the unrolling of a mummy that had been buried for 2000 years,—at Constantinople by the wing of a bird having touched a kite which a boy was flying from a house top,—from a cat having been seen to jump into a basket in which were some clothes, from which the disease was subsequently caught. Dr. Bowring said, that physicians residing in the East were rapidly changing their opinions on the subject, but they were prevented in many instances from freely expressing them, by the interested Boards of Health, who neither liked to part with their extensive power, (even of life and death,) or with their salaries. Clot Bey was a decided anti-contagionist, and that after an experience of 8,000 or 10,000 cases. Dr. Bowring mentioned many cases where facts were distorted, or invented to account for cases of plague from contagion; and in one remarkable instance, where the misrepresentations were exposed, it was denied that the case was plague at all, because they could not maintain their assertion of contact having taken place. The Mussulmans are by their religion non-contagionists, and Dr. Bowring hoped they might never become otherwise, as the aggravation of the calamity would be tenfold if they did. The opinion as to the contagious nature of the disease prevailed principally amongst the Levantines and Franks; but every other superstition was as readily believed by them. He had collected the most solemnly attested evidence of the appearance of Peris and Genii, and of the intermarriages of the former with mortals: he had collected more strongly-attested *facts* on these subjects, than on the contagious nature of plague. Dr. Bowring asserted that, from innumerable instances, quarantine appeared to give no security, and was of opinion that these establishments were mere political engines, of great power and convenience in a despotic country. In the lazarettos the whole correspondence of the East was read. The Russians had a most perfect system of quarantine, yet the plague got into Odessa. In 1831 quarantine and lazaretto establishments were introduced into Egypt, under the superintendence of the Consuls, yet the plague got into Egypt. In Jaffa it broke out in the house of the Russian Consul spontaneously, and in Jerusalem in a convent, with which there could have been no communication. In the lazarettos, a little disease was made a great deal of; in one instance a greater number died from dysentery than from plague. Lazarettos, he continued, rather increased than diminished the evil. If a strict separation could ensure safety, the Pacha's harem would escape; yet in 1835, seven died there of plague. It appeared at one time in Old Cairo, and not in New, and *vice versa*, although there was constant communication; the same was true as to Cairo and Alexandria. The disease never penetrated Nubia, though constantly on the borders, and frequent intercourse taking place. In Cairo on one occasion 400 or 500 houses, whose inhabitants had all perished, were subsequently opened, the linen and clothes in

them sold in the market-place, without any cases of plague resulting. Clot Bey had again and again inoculated himself without producing the disease. Dr. Boulard wore the clothes of a patient, who died of the disease, for twenty-four hours, without catching it. The following information was communicated to Dr. Bowring, by a physician of long experience, in answer to a series of direct queries, viz: that it is indigenous in Egypt, never entirely absent, never imported, that it *frequently* occurs spontaneously, that cordons afford no security, that contacts very frequently did not produce it, and that the most cautious frequently suffered from it; that free ventilation was effective in checking the disease, that it was not produced by linen which had been exposed to the infection, and that when a number of persons exposed to its influence removed from the spot, the mortality became much diminished. Dr. Bowring concluded by expressing his own strong conviction on the subject; but he had no object but to promote the discovery of truth, which could only be done by patient and serious inquiry, and by evidence of a primary character.

Dr. Lynch begged leave to propose a resolution, to the effect, that Dr. Bowring's paper should be published.—Mr. Greenhow could not but remark on the strong analogy, which existed between the statements of the learned gentleman on plague and lazarettos, and the events which occurred in this district relative to cholera and cholera hospitals. He also requested Dr. Bowring to furnish a copy of his observations to the Secretaries.—Dr. Granville opposed the motion of Dr. Lynch. The communication he contended was not strictly medical; it was political, not pathological: he must oppose too the deductions of Dr. Bowring; he was not indeed present at the commencement of his address, but that was the less necessity as he had heard the whole subject in detail, on board the *Ocean* steam-packet. It was not by declaiming on the superstition of the Levantines, or by the eloquent introduction of Peris, Genii, and Vampires, that a strictly pathological question could be decided, nor by false inferences from bad Boards of Health. The chairman interrupted Dr. Granville, by protesting against this line of personal attack, and allusion to what had taken place elsewhere. After some desultory observations, Dr. Lynch's motion, somewhat modified, was passed. Dr. Granville then begged leave to propose that the Committee should make application to Her Majesty's Government for a grant to be applied to the purposes of inquiry into the important subject of the contagious or non-contagious nature of plague. This motion was passed unanimously, as also one of thanks to Dr. Bowring.

Part III.—MONTHLY PERISCOPE.

Prolapsus Uteri.

We give place to the following correspondence on the subject of prolapsus uteri for several reasons; a few of which are considered sufficient.

1st. Because the letter requesting advice contains a very accurate description of the most common cases of this disease, and an independent, rational, and accurate diagnosis by its author, who is professedly, not experimentally acquainted with the disease; and by which, cause and effect—phenomena too commonly transposed—are placed in their proper relationships in the concatenation of phenomena attending this disease.

2d. The *symptoms* or *secondary* morbid phenomena produced by this disease, are generally treated as *primary*, whilst their cause, without the removal of which, no permanent good may be expected to result, is generally neglected, or most inefficiently treated by practitioners.

3d. The reply to that letter is about such as the author is so often compelled to write to his professional brethren, that he hopes, by its publication to supply at once, to many, those remedial suggestions, for writing which promptly for individual cases, his engagements do not allow him leisure. He hopes therefore by this measure to prevent injurious delay in such cases, and to save to himself many hours.

Through motives of delicacy, the names and location of the patients are omitted.

"W—— S——, *Feb. 26th*, 1839.

Dr. Antony:—

Though not personally acquainted with you, yet your high professional character, and the confiding esteem with which I look up to your practitional skill, induces me to address you this letter, and to ask of you the benefit of counsel and advice.

The case in which I wish your direction and advice, is that of Mrs. ——, aged about 20. and lately married. Mrs. —— is of sanguine temperament, and strumous diathesis, with light hair, fair skin and blue eyes,—an intellect highly cultivated, and a lively imagination that delights in the wild and fanciful. For some years past, she resided in ——, and only very recently, has removed to this state; and still more recently, placed herself under my professional care.

In asking of Mrs. —— the history of her case, and the char-

acter of her disease, I was informed by her that her disease was a pain in her right side—that it had existed for five years, gradually increasing; and that her medical advisers had treated her case as a chronic hepatitis, with a variety of medicines with perfect ill-success.

Though my acquaintance with Mrs. —— was very slight, still I could not believe that the *cause* of her ruined health was an affection of the liver. Her lively disposition, her gay repartee, and her animating sociability were the very opposite of the mental and social character of one suffering from chronic hepatitis. Her face was pale, but not jaundiced—her eyes swollen and surrounded with a yellow circle—great excitability, and great lassitude on the slightest exertion, accompanied with an increase of the pain in her side. From such symptoms, I thought it probable that her physicians might be in error in diagnosis in her case; and that, instead of ascribing her ill health to primary hepatic derangement, it might be more truly referred to the powerful influence exerted on the whole system by derangements of, or diseases in, the *genitalia*. With this impression, I examined my patient as minutely and accurately as my competency enabled me; and from the examination learned that she had pain in the right hypogastric region, extending from the inferior margin of the ribs, downwards into the groin, frequently into the thighs, and often even to the leg and foot of that side—a dull pain or sense of uneasiness in the sacral region, with a sense of dragging weight when she was long in the standing position, and after taking exercise by walking, or riding on horseback or in a carriage. She was frequently annoyed with tenesmus and strangury, with flatulency and pain in the bowels. Her catamenial returns were irregular and painful, and she was affected with leucorrhœa, not in its first stage or mildest form.

With this knowledge of the symptoms I informed my patient that I looked on her disease not as hepatic, but as uterine—i. e. *prolapsus uteri* as the original disease, and dysmenorrhœa, &c., as consequences of the primary displacement. To verify my diagnosis, I requested and was permitted to make a vaginal examination, and thus found the os uteri resting on the perineum; its lips anterior and posterior, and its neck enlarged, indurated, and painful, &c.

Such is a very hasty and imperfect history of the case in which I wish your counsel. I might add many other symptoms; but your thorough knowledge of this class of diseases, and perfect familiarity with all its symptoms render it unnecessary.

I may add that, in treating the case I inserted an oval glass pessary, (2 1-8 inches,) but found, as I anticipated, that it increased, very much, the irritation of the os tincæ, and after a few day's trial, its use was necessarily discontinued from the

present. I then ordered rest, recumbency, low diet, semicupium, cups to the hypogastric and uterine regions, and a laxative pill, night and morning, composed of aloes, sulph. ferri and the sulphuret of antimony and gum myrrh.

Such is the present condition of the patient. I hope you will do me the favor to write me, and all suggestions in the treatment of the case will be thankfully received by your friend, &c.,

J. W. H.

Augusta, 10*th March*, 1839.

Dear Sir:—

You could not have described more accurately than you have done in giving me a history of Mrs. ——'s case, a common case of prolapsus uteri. Indeed the case is one, if I may so speak, remarkable only for the fullness of symptoms which most fully characterize its nature. Judging from your history, I must say then, that your diagnosis, which is that prolapsus in the *primary* affection, and dysmenorrhœa, leucorrhœa, dysury, constipation, all hepatic symptoms, &c. &c., are but its symptoms and consequents or effects, is perfectly correct. Some of these may, however, demand treatment, as well as the primary affection; for, although we may not expect effects to cease whilst their causes continue, still it is often the case that the removal of causation does not remove all the effects it may have produced; and these require the intervention of art. But in such a case as this, it is often delightful to the practitioner to observe how abundantly the powers of nature suffice to correct the ill effects of this cause when it is removed. I have often the satisfaction of finding all such symptoms or effects speedily to vanish on the correction of their cause, without one dose of medicine; and especially in such temperaments as Mrs. ——'s, which is, more than others, calculated to surmount hepatic injuries. I would therefore advise

1st. The correction of the cause, according to the diagnosis you have so accurately made—observing, as the case progresses, the condition of the effects, and giving such assistance as nature evidently demand, and *no other;* because medical treatment tends to produce debility, whilst the reverse you will need to assist you in the cure, as well as to perpetuate it; and tonics, except occasionally the shower bath, are most commonly contra-indicated by different local excitements, visceral derangements, &c.

The uterus must be considerably engorged, at least about the cervix. This endangers ulcerations or other consequences, not only difficult of cure themselves, but also calculated to interfere with your convenience and success in treating the primary disease. Let the uterus therefore be restored to its proper site as promptly as possible, and kept so. This is the great indication.

Mere *position*, the good itself, and necessary, will not, alone, suffice. The patient must be first placed in such a position as to secure the full power of gravitation in drawing the uterus in the direction of the upper extremity of the axis of the superior strait of the pelvis, which is in the direction of the umbilicus. Whilst in this position, the abdominal muscles must be relaxed to prevent them from counteracting the gravitation; whilst the vulva is to be dilated to admit the influence of atmospherie pressure into the vagina. Thus attracted by gravitation of the uterus, and forced by atmospherie pressure, the uterus is brought more or less completely to its proper site; any deficieneies of which may then be corrected by placing the ball of one finger or more, carefully on the os uteri, and co-operating with the forces already in use, in the same direction, as far as can be done, without much pain. Whatever deficieney may yet remain in consequence of surrounding engorgement or inflammation, will be easily corrected at subsequent attempts; for it is often the case that the restoration cannot, by prudent force, be fully effected at the first attempt. The patient remaining thus, a wash should be thrown into the vagina by means of a good womb syringe, and the vulva closed and compressed by a napkin and the hand, until the hips are carefully placed on a pillow, without the muscular efforts of the patient.

If there be much irritation, the wash should first consist of 4 or 5 grains of sub. acid. plumb. to the ounce of water. But if otherwise, should consist of about ʒvj. sulph. alum. to the pint of water, or a strong decoction of red oak bark, or a decoction of ʒi. of powdered galls, well boiled in 1 pint of water. The two last are preferable, because more permanent in their tonic effects on the parts.

This treatment or dressing should be repeated twice or thrice a day. After some days, if the improvement be such as to induce the hope that she may be able to sit up for an hour or two without injury just before the dressing, she should do so, because it is too enervating to be long confined to bed; and especially in the position above pointed out. If, on this trial, she be found to remain uninjured, she may rise earlier subsequently, according to her improving ability, until, at last, she may be up all day after an hour or two from the time the wash is used in the morning; and finally, omit the morning use of the wash, retaining only the use of it at night, until the cure is completed. The washes must be carefully avoided from two or three days before the time for the menstrual return, until it is over—continuing the replacement, with great care, if necessary, during the whole menstrual flux.

Should such means be found insufficient, a pessary, or uterine prop should be introduced, so as to prop the uterus up to its proper height. This should be applied and worn through the

menstrual period, if she should not be able to menstruate well without it. It should be made of carded wool, built up into the shape of an hour-glass when wrapped around the middle with a thread, which is necessary, to keep it well together. It should, when done, be 2 1-2 to 3 inches long, and should have a strong string passed longitudinally from the lower to the upper end, through the centre, and returned. This is for the double purpose of drawing the upper end into a funnel shape for receiving the os uteri, and for the convenience of extracting it, when necessary. If it be introduced through the vulva, and placed in the lower part of the axis of the superior strait, when in this place, the upper end will receive the os uteri, and the lower end will rest in the fossa over the perineum and behind the vulva, so as to keep it from easily protruding through the vulva, or compressing and irritating the urethra. With this in use, the patient may be up the most, or all of the day. But when it is removed, she must be very rigidly treated with *position*, and strengthening washes until retention is effected. This pessary, you will observe, is not to be used unless proved necessary by the circumstances above detailed. The patient should not be annoyed by any of the other pessaries, as they neither tend to assist in the cure, nor serve to retain the uterus up to its proper site. The best they can do, is to prevent procidentia, or the actual falling out of the uterus, when cure becomes hopeless. *Connubial intercourse should be absolutely interdicted, as it can scarcely fail to irritate the uterus and relax the vagina—two efforts incompatible with curative purposes.*

With these views, I hope you will be able to extend to your patient that assistance which is so much needed, and than which, none is more important to her comfort and safety.

M. ANTONY.

Dr. ——— —. ———.

J——, B—— Co., *8th March*, 1839.

Dear Sir:—

I am anxious to obtain your opinion and advice in regard to a most singular and obstinate case now under my care, and which I will proceed to relate.

Mrs. ——, now in her 54th year, enjoyed general good health until five or six years ago; when, on attempting to raise a heavy burthen, she perceived, (to use her own expression,) "something give way, or pass down, internally." On investigation by herself, it was found that the uterus had prolapsed to near the vulva. In this situation it continued for several weeks; at the end of which she attempted the correction of the displacement herself, and continued better thereafter, for a few days; when, on taking considerable exercise in walking, the prolapse returned, but not to so great an extent as at first. The

womb remained however, within about one inch of the vulva, when she was ereet, for the two following years; but when in a horizontal position it returned to its proper site. During the third and fourth years, copious leueorrhœa existed, whieh added greatly to her alarm and uneasiness; but she could not be prevailed upon to employ a physician. The prolapse and leueorrhœal diseharge rendered her exceedingly unhappy and distressed in mind. Thus she continued in this dreadful situation until the middle of the fifth year. She now diseovered eonsiderable tumefaetion of the neck of the uterus, attended with frequent and eopious hemorrhage. She was now induced to eall on me for adviee in regard to the hemorrhage. I found her weak and redueed, and preseribed astringents and tonies; with the desired effeet of suppressing the hemorrhage and the leueorrhœa to some extent; but a gradual hemorrhage still continued. Some three or four weeks since, she desired me again to visit her. At this visit, I found her situation indeed alarming. The hemorrhage excessive, general fever, pulse quiek and 120 to the minute, tongue unexpeetedly in a natural state; bowels much constipated, having had no operation for the last seven days; vomiting every hour or two; and for the last three days, every thing taken into the stomaeh has been immediately rejeeted. I now resorted to sueh eathartics, diaphoreties, astringents, revulsives, &c., as I found neeessary. The use of these ended in the removal of the fever, constipation, hemorrhage &e., and the discharge of mueh bilious seeretion from the bowels, to her very great relief.

My preceptor, Dr. John Sanders, was present at the time with me, and we attempted to make an examination per vaginam, on whieh the uterus was found, as above stated, within an ineh or ineh and a half of the vulva; the os and eervix uteri enlarged and mueh indurated, conieal, and presenting to the toueh a horn-like feel. The os uteri was not oceluded, and on pressure the uterus was almost perfeetly immovable in every direetion. Free hemorrhage was produeed by the attempts to move the uterus; it was however promptly counteraeted by styptics. The faet was strange to me, that on the eessation of hemorrhage, leucorrhœa supervened, and viee versa. There was some pain in the lumbar region, but it is remarkable that in the neck and mouth of the womb whieh appeared to be the chief seat of disease, the patient had not suffered the least pain; but she declared it had not pained her the first time. * * * *

In our treatment of this horn-like induration of the uterus, we resorted to revulsives, blistering, &c., to no good effect in redueing either the tumefaction or cornuous hardness of the enlarged and elongated eervix. From fear of the insufficiency of the belladonna ointment to so relax and soften the tumor as to enable it to yield to pressure, I have not yet given it a thorough

trial. The hemorrhage and leucorrhœa, neither of which is, at the present time, very reducing to her system, can be suppressed for a while.

Your opinion, in regard to this afflicting case is earnestly solicited. What would be your treatment? To an operation, though it might promise the greatest success, she would not submit. Can you refer me to just such a case? How can it be, that she has been clear of pain about the cervix which is so extensively affected? Please give me an immediate answer to all that I have requested, and accept my best wishes for your health, prosperity, and future happiness,

Yours, &c., SIMON H. SANDERS.

M. Antony, M. D.

Augusta, 11*th March*, 1839.

In reply, my dear sir, to your request of my "opinion in regard to the afflicting case" you have described in your letter of the 8th, I say you have given me a minute detail of a progressive case of prolapse of the womb, with several of the important results arising out of that species of genital prolapse. These succedania, which are, by an error too common in the profession, usually looked on as primary diseases, and treated accordingly, are very numerous. In the present case, however, they are limited, so far as you have noticed them, to engorgement and consequent indication of the os and cervix uteri, menorrhagia and leucorrhœa; and perhaps some nervous derangement and disorder of the digestive and hepatic functions. The three first named are however the subjects of your chief reference. I am pleased to observe that you have not committed the very common error of considering them *primary*, *self-existent* diseases, or related to the prolapse as cause. They are evidently *effects*, and not *causes* of this displacement. This is proved by reasoning both ways. They are all, effects precisely in the line of direction, so to speak, of the prolapse as a cause, and are proportionate as effects to this, as a cause; and phenomena most uniformly following this. This, it appears to me, must be evident to every good anatomist or observer whose mind is unbiassed by the partial views of writers and teachers on this subject. They are just such effects as we see, almost consequently follow this cause—varying however in degree, proportion, &c., with the age, temperament, and various conditions and circumstances of the patient. And they are proved to be effects, by their constant correction—by the timely removal of their cause, for those phenomena which disappear on the removal of certain antecedent phenomena must, in fair reasoning, be considered the *effects* of those previous phenomena. This is clear and indisputable, in pathology, notwithstanding the fact that sometimes the causing or antecedent phenomena may be removed without

the removal of its consequents. The cause of this difference of reasoning in pathology and physicks is, that the animal structure is subject to new and consecutive causation to which physicks, abstractly, are not—that is, morbid lesion or injury of parts to such an extent as to constitute a self-existent disease, or one which can continue by virtue of its own peculiar circumstances. Such is the case with a wound inflicted by any violence. The contusion, laceration, or division of parts continues, although the cause is but momentarily in action. The same of diseases produced by cold, as a pleurisy, a catarrh, a rheumatism, or an inflammatory fever. These continue self-existent—that is to say, they are, when once produced, perpetuated by their own inherent circumstances, notwithstanding the cold which was a cause, without which they could not have occurred, is no longer in operation, and so forth. Another reason is the peculiarities of *animal* nature. This is one of the most important points in diagnosis, and one in which the most frequent and fatal errors in practice arise—I mean properly distinguishing between *causes* and *effects*. The error arises, without doubt, in many cases, from the too strict application of the rules of reasoning in physicks, to *pathology*, in which the *principles of life* are concerned, and must necessarily introduce new and consecutive causation calculated to modify the results; but which is overlooked in the reasoning. And what must be the unavoidable result in such a case as that before us, for example, but the neglect of the causes and their continuation in operation, and the consequent perpetuation of their various effects? Hence the great, general indications, *remove causes and correct their effects.*

But the case before us is too palpable to be misapprehended. An evident and competent cause existed; its legitimate effects were soon so plainly manifested that the patient herself, without medical mind with which to investigate, detected the effect of this cause, and cause of subsequent phenomena, which was prolapse. She attempted to correct this effect, (all that was to be done, as its cause was no longer in operation.) Relief followed in just proportion to her success in fulfilling the indication. But when, (the parts being weakened, the same effects were more easily induced than at first, which is a proper predisposing cause, calculated to modify the results from other causes,) a new cause, as a fatiguing walk, &c., was applied, the effects were, as they must necessarily have been, renewed; but *more gradually*, and hence the progress and continuance of the prolapse, and consequently, some of its effects, without suddenly arousing the sensibilities of the patient. The parts thus becoming gradually injured, disease has been allowed finally to progress to great extent, without sensible distress in the chief seat of engorgement, to which the sensibilities of the part have become gradually habituated. I have often produced more actual

pain, for a short time, by adjustment of the uterus, than had been experienced in the part by the patient previously. To this, I may add that engorgement, hypertrophy, and even scirrhus, may exist to a very considerable extent, without much pain in the part of the uterus affected. Indeed, we are often surprised to find, on examination, either of these; when, from the external symptoms we had no reason to expect it.

Having replied to two of your inquiries, I shall now proceed to speak of the treatment.

In regard to this, I must say that much depends on the particular impressions received from the manual examination by one's self. Certain it is that the general indications of removing the cause and obviating its effects, exist prominently in the case, and their fulfilment will be very apt to control the troublesome menorrhagia and leucorrhœa by which you have been so much perplexed. Your experience in this case is enough to prove to you the inefficacy of prescriptions directed immediately to these, regardless of the cause—the prolapse; your success, after extensive trials being but partial in degree, and temporary in duration.

The first of these indications is to be fulfilled by restoring the uterus to its proper site in the upper part of the pelvis, with its axis in relation with that of the abdominal strait. This is most easilly and effectually done by placing the patient in a position in which gravitation, acting on the uterus in conjunction with atmospheric pressure, will tend to draw this organ towards the umbilicus. Whilst in this position care must be taken that these forces be not counteracted by the pressure of the abdominal muscles. These being perfectly relaxed and continued so, the vulva is to be carefully opened for the free admission of air. Then will the two forces above named be in full action. Should it be the case, as it sometimes is, that from surrounding engorgements, tumefactions or adhesions, the uterus fail to pass to its proper place, the soft ball of the index finger is to be carefully placed on the os uteri, and pressure made in the direction of the axis of the superior or abdominal strait, so far as it may be without giving much distress, until the uterus is forced away to the upper extremity of the vagina. Be not discouraged, if this effort produce no very perceptible change in the position of parts; for this is often the case, when the engorgement is considerable. But when all is done which can be prudently at one time, the patient is to be carefully placed on her side, with her hips on a pillow. This should be daily tried, on which it will generally be found that the mobility of the uterus gradually increases, until it is totally restored to its proper site. This accomplished, the second indication is to be fulfilled by applying to the vagina by means of a good womb syringe, such discutient and astringent washes as are calculated to remove any inflammatory

condition which may still remain, and renew the contractile energies of the vagina, in which the enlarged uterus has been so long nestled. These may consist of a strong solution of about 5 grains of sub-acetate of lead to the ounce of water—a strong solution of something like 5, 6, or 7 drachms of sulph. alum. to a pint of water—a strong decoction of oak bark, or of 8 or 10 drachms of aleppo galls to 20 ounces of water, boiled down to 16. Some one of these, according to the circumstances of the case, should be applied once or twice a day, immediately after rectifying the uterus, and in the same position in which this is done; after which, a napkin being firmly pressed against the vulva, the patient is to be carefully placed on the pillow as before. But previous and subsequent indications may exist. It may be found that there is entirely too much engorgement for the rectification of the womb. In this case the previous indication will be to reduce the engorgement preparatory to the replacement. For this purpose, leeches applied to the os and cervix uteri, with a proper regulation of the diet to prevent repletion, with occasional warm hip baths will be best suited to the purpose. Cupping low on the hypogastric and iliac regions may be considered advisable, on the impossibility of applying leeches to the os uteri; but cupping or leeching on parts other than the actual seat of engorgement, or parts having immediate vascular connexion therewith, amounts to nothing more than a poor general bleeding. It is a great error in practice, to exercise topical depletion otherwise, although greatly indulged in since the days of Broussais, to the great annoyance of the patient, and imprudent profit of the practitioner. It may be found also that visceral obstructions exist elsewhere, as effects of the primary disease, or irritations set up in other parts, as the liver, spinal marrow, &c. These afford subsequent indcations, which should be fulfilled by the means usally suited to such cases. And I will here remark, that the treatment of the liver, by occasional slow mercurial purgatives, is one of the most important means at command for promoting the disgorgement of the uterus. If this uterine engorgement is decidedly chronic in all its character, an alterative course consisting chiefly of Plummer's pills will be found serviceable.

As to the operation of amputating the cervix uteri, the patient is wise in opposing it; it has been greatly abused, and its chief promoter has already outlived its glory.

You ask to be referred to such a case. I refer you therefore to the whole work of Duparque on the uterus, a recent work of more value on the subject than any other extant, and replete with cases of morbid affections of this kind. His cases are finely descriptive, and the only considerable fault I find in the work, is the want of sufficiently strong views of the influence of uterine prolapse *as a cause*. This defieiency must of course

extend its influence in a considerable degree to the treatment. Still, in justice I must say that in this particular, Duparque has decidedly improved the previous state of knowledge on this subject. I could also refer you to many cases of the same pathology, in my own practice, successfully treated according to the views here detailed. Yours, &c.,

M. ANTONY.

Dr. S. M. Sanders.

Injury of the Urethra from Prolapsus Uteri.

In addition to the above cases, and to show one amongst many of the curious varieties of afflictions which so often arise from prolapsus, we record in this place, with the patient's consent, a case which is now on hand.

Mrs. Mc——, of the state of New York, placed herself under our care on Wednesday, the 18th of the present month, (March.) She is 28 years of age, well proportioned, but rather taller than the medium stature, sanguineo-bilious temperament—the former predominating; eyes dark grey, and hair black. Her bowels tend to constipation, with a sense of obstruction at the rectum. She has been many years married, but has never conceived. Her menstruation has been accelerated to less than three weeks from the beginning of one flux to that of the next; attended with pain about the loins and hypogastrium, and numbness and pain in the thighs. She has suffered now for several years, great and increasing distress in menstruation, exquisite tenderness and considerable swelling of the urethra, and particularly at the punctum, from which, a preternatural growth—fungous, from her description, arose to a considerable magnitude, and about half the length of her thumb. This was exquisitely sensitive, affording blood on the slightest violence, exquisite distress on urination, and a small quantity of yellow purulent discharge from within. She has never suffered from any infectious disease. In this state of the case, when under the care of Dr. S*********, of the state of New York, she suffered the removal by the knife, of the extraordinary growth at the outward extremity of the urethra; but the part from which the excision was made remained denuded, exquisitely tender and painful, and with the whole urethra, swollen to double its natural size, until she came under my care on last Thursday. Dr. S. had attempted to pass a small female catheter, but it was so much resisted by the swelling of the urethra, and afforded so much pain, that it was abandoned as impracticable. She had been habituated, through her whole life to tight lacing, during

which, the increase of distress produced by this cruel practice, has effectually prevented its continuance.

On investigating this case on Thursday last, the os uteri was found tightly impacted in the angle between the perineum and rectum, whilst the fundus was firmly pressed against the urethra near its vesical extremity, and the whole volume of the uterus unusually hard and somewhat enlarged. The careful examination of the uterus gave great pain, chiefly in consequence of the extreme soreness of the urethra from the uterus outward.

In all these phenomena of the case, I saw no more than the situation of the uterus seemed to me competent to produce. The correction of this organ appeared then to be the only important indication in the case; and I therefore attempted, but with only partial success, to carry the uterus higher in the pelvis and bring its axis into relation with that of the abdominal strait. With this attempt, the patient was left, on her side, with a pillow under her hips, until the next morning.

Thursday Morning, 14*th*.—I found the patient still complaining of much pain on urination, but on examination it was obvious to her that the tenderness was less exquisite; and I found that the uterus had more mobility. It was then replaced to its proper site with considerable ease, and she was again placed in position, on the pillow. Thursday evening I found the sensibility and swelling at the point decidedly lessened, and applied a lotion to the vagina by the means of a womb syringe, with a small curved pipe, consisting of ℈iv. sub. acet. plumb. and 1 pint of water.

Friday Morning, 15*th*.—Found her perfectly comfortable, having urinated twice since last evening, with freedom and ease. It was yet perceptible to her that the outward extremity of the urethra was not healed, but its morbid sensibility as well as the general swelling of the whole urethra was greatly reduced. The saturnine lotion was again applied in the same manner.

Friday Evening.—Having passed the day very comfortably she had ventured to spend an hour or two out of bed previous to this visit, and complained of pain again in the urethra. On examination it was found that the uterine displacement had to some extent returned. It was now promptly corrected, the lotion applied, and position strictly enjoined. The distress vanished immediately, nor was there any remaining swelling or increased sensibility.

Saturday Evening, 16*th*.—Replacement had been well preserved and all the morbid enlargement and sensibility of the urethra seem to have disappeared. The lotion and position continued. The inflammation being subdued, an astringent lotion consisting of ℥ i. of bruised aleppo galls, put into ℥ xx. of water, and boiled down to ℥ xvi., ordered for to-morrow, should there be no return of inflammation in the part.

Sunday, 17*th*.—The patient is doing well to-day. No unnatural tenderness nor swelling remains. She is now advised to use the vaginal injection of decoction of galls.

Take bruised Aleppo galls,	℥ j.
Water,	℥ xx.
Boil down to	℥ xvi.

Inject, morning and at bed-time.

It now only remains to secure that energy of the vagina which is necessary to close the delatation which the uterus has made by being long nestled in it, and which is indispensable for preventing the easy prolapse. It should be remarked of this case, that it is not sufficient, in the replacement, to secure the due elevation of the uterus to its site in the hypogastrium; but that anteversion which caused the injurious pressure of the fundus on the urethra, still causes the fundus to incline forward of the axis. This needs correction at every application of the lotion, by drawing the os and cervix uteri anteriorly until the axis of the uterus is in relation with that of the superior, or abdominal strait of the pelvis; for unless this is done, the due contraction of that portion of the vagina against which the os uteri presses, which is the upper and posterior part, cannot be secured.

It is useless to give further details of this case, which is yet, and will be for a few days more, under our care; after which, the patient will leave for the north. The strengthening lotion will still be necessary for some time, in order permanently to overcome the relaxation of the vagina which the long continuance of this genital prolapse has produced. Her menstrual period is within a week; she will therefore omit the lotions a day or two previous to that period, and carefully preserve the replacement during the term, and return to the use of the lotion after the menses cease.

Wednesday, 20*th*.—We have pleasure in stating that she is discharged, apparently well; yet we apprehend that her travel to the north will re-produce some of her distresses, which will require farther treatment of the same kind when she arrives at home.

Friday, 22*d*.—Our periscope being open until this time, gives us the opportunity of stating that we called on the patient to-day, and find that her menstrual flux commenced yesterday with ease and regularity in all respects, and continues in like manner to-day. To-morrow, according to her course in health, it will decline. EDITOR.

Hydrophobia.—It is to be regretted that cases of disease of the deepest interest, as well as anatomical and physiological

facts occur within, and even under the knowledge and supervision of medical men, which are left to the common people to be reported; and to be, consequently, subjected to all their whims, caprices, fears, prejudices, imagmations, &c. This is more especially to be deplored, when the cases are of such a character as the profession needs light upon; and this is abundantly the case with regard to hydrophobia, a disease so differently and often, without doubt, so erroneously defined or described. It is a disease, at least, in regard to its appearance in the human species, of such rare occurrence, that it falls to the lot of but few physicians to observe even one genuine case. Still such are the horrible descriptions of it, and such the just terror of the community on any occasion of alarm, that the faithful practitioner feels extremely unhappy with the idea of meeting a case of it without even the means of diagnosis. In the case before us, we are informed of the attendance of several physicians, and still the case appears not from either of them; but comes to us in the New York Star, rather as a puff to the *East India Medicine*, or *spiritus vitæ*, than as a medical report.

We are aware that very many cases occur and wear the name of hydrophobia which are really not that disease. We have often been called to treat such cases, but have never yet met with any thing we could consider hydrophobia. One case in particular, the recollection of which is fresh in our mind, attracted our attention whilst travelling through Alabama in the early settlement of that country. It was so strongly characterized, that we were induced to go considerably from our way to see it. The girl who was the subject of it was about 11 years old, and had been bitten by a small dog which came unexpectedly into the house some three weeks before, bit her heel, and left the house immediately. Without naming all the symptoms, we will only state that several persons were engaged in holding her in such a manner as to keep her from biting, whilst water was occasionally poured within her hearing or sight, or offered to her for drink, in order to produce a display of those spasms, which are said to occur under such circumstances. We remained with this case about an hour, taking the whole management of the patient. We first liberated the hands, head and feet, from those who were holding them, searched for the wound on the heel, the scar of which could not be found—indeed, the family had forgotten on which heel it had been inflicted. We conversed with her, and before we left, she was quite tranquil, as to actions, and even drank water twice, without any appearance of spasms being excited thereby.

We could not remain to make further investigations of the case, but believed that her nervous excitement was probably the effect of worms, and alarm relative to the dog-bite.

We give Dr. Good's characters of this disease; and extract

the case to which we allude, as it now appears in the Eclectic Journal of Medicine from the New York Star.

"*Rabies.*—Spasmodic constriction of the chest; supervening to the bite of a rabid animal; preceded by a return of the pain and inflammation in the bitten part; great restlessness, horror, and hurry of mind."

Hydrophobia.—There has been lately published, in the New York Star, a wonderful account of a case of an alleged cure of violent hydrophobia by the outward application of what is called the *East India Medicine* or *Spiritus Vitæ*. The subject of the attack was a young female of the Society of Friends, named Ann Dickers, residing in the middle road, in the neighborhood of the Deaf and Dumb Asylum, New York. This person, twenty years of age, was, it is said, bitten, in the month of April last, "by a dog which had been given to the family by a neighbor, named Chrues; but which circumstance she did not at the time make known to any one, in consequence of her father having frequently warned her against playing with dogs—she being fond of sporting and teazing them. Soon after receiving this bite the dog which had previously exhibited symptoms of being rabid disappeared, and nothing has since been heard of it." So far the preliminary history—which, it must be admitted, is not very clear.

On a Sunday evening, in the latter part of October, or beginning of November, up to which time Miss Ann had enjoyed full health, she first began to manifest strange feelings, among which was distress at the sight of a pail of water, which her sisters had taken up to their room; afterwards, though, she poured out tea, but did not drink any, "she appeared to look wild, and started off on seeing the gravy with some meat which her sister took from the stove. Going to bed, she felt a paroxysm coming on, and told her sisters to fly, intimating she was mad; they got out of her way, fearing that she would injure them. "We all," says one of her sisters, "ran up in a fright, seeing she was in dreadful spasms, the foam coming in thick masses from her mouth, her eyes glaring, and her whole appearance being altered." After this (her father had arrived in the room,) Ann voluntarily held her arms back to be tied, and one of the men who were let into the room did go up and tie her. "She then threw herself wildly on the bed, her face downward, and began to bite and tear the pillows and bed-clothes. After the first spasm she repeatedly exclaimed, 'Oh! it's Chrues's dog! it's Chrues's dog! it's all over with me—I know it is! 'twas Chrues's dog!'" This was the first time, says the deponent, her sister, that we had known about her being injured by that dog. "She had been bitten in the nose three or four days before her illness, by a little pet dog, but we thought that had got well." "Her barking, howling, and growling were hideous, and exactly like a dog."

Drs. Rawson, Baldwin, and Lindsey are mentioned as having visited and prescribed for the patient. The last named gentleman "came and tested the disease by calling for water; water was procured, but she did not see it—she only heard it being poured into the glass, and the spasms produced by it were dreadful in the extreme, continuous, and truly frightful. All the spasms were not attended with barking, but the most were. The barking continued until next day." Dr. M'Niven and son visited her on Monday night. Nothing prescribed was of any service; indeed it is said she did not swallow any thing. About a pint of blood had been taken from her, the first night of her attack.

Mr. Jennison's East India Medicine or Spiritus Vitæ was first applied on Tuesday morning, with the consent of Doctors Baldwin and Lindsay. "Her throat was bathed with it; then a tobacco poultice was ordered to be applied by the physicians to her throat and bowels. Mr. Jennison then came, re-

moved the poultices, and applied the East India Medicine freely to her hands, throat, head, feet, and the joints of her limbs, by the permission of Doctor M'Nevin, to whom the operation and properties had been explained." It was repeated every half hour until about twelve o'clock, when she appeared to recover, and soon called for drink, and not only slept a little, but conversed some." "We had applied the East India Medicine twice before Mr. Jennison came; it had not been used more than two or three hours and a half, after the first thorough application was made, before she called for a drink, which she had not done for several days, and seemed considerably relieved. She asked for buttermilk; it was given her—at first a spoonful at a time. She said she could drink a pail full—I gave her the pitcher—she drank the contents, holding nearly a quart. It was about two o'clock when Mr. Jennison left—she was then asleep. About day-light she had a slight return of the spasms, with delirium, which was immediately subdued on the first application of the East India Medicine."

The preceding are the chief facts as detailed by the sister of Ann, in a deposition before a magistrate. What was the disease of this young woman? What was the nature and composition of the remedy used? How did it, provided it did, operate,—by absorption or by sympathy? We profess ourselves unable to answer these questions, or to pretend to guide the faith of our readers in this matter. Perhaps we may be favored with fuller details of the case from one of the medical gentlemen in attendance.*

Attached Twins.—The following case is related in one of the French political papers, the *Journal des Debats*, in a letter from Rambouillet:—

"On the 7th of October, a woman of the commune of Prunay-sous-Ablis was brought to bed of twin daughters, but so united as to have the appearance of one body with two heads, four legs, and four arms. Two vertebral columns are perfectly distinguishable, and there are two chests and throats, with the organs of deglutition. There are also distinct organs of evacuation for each, and consequently it is inferred that the whole of the internal economy is double; but there was only one umbilical cord. This phenomenon is yet too young for any extensive or accurate observations to be made, but it is clear that the faculties of the two united beings are distinct, as one is frequently engaged in taking nourishment while the other is asleep. The heads are reversed, so that should one be placed on its feet, the head of the other would be hanging downwards with the feet in the air. The length of the two children is twenty inches. The arterial pulsations are isochronic in general, but those of one are a little more frequent than in the other. They have been baptized separately by the name of Marie Louise and Hortense Honorée. Their mother is a healthy woman, and was brought to bed last year of a child perfectly formed."—*Eclectic Journal.*

Certain signs of Worms.—In a letter from Dr. G. K. Holloway, dated 6th March, 1839, he declares himself unable to come to the conclusion that there is no positive symptom of the presence of worms in the alimentary canal; because, in a pretty extensive practice for nearly twenty years, he has "found *one sign certain and possitively true*, as found in every case in which he has pretended to give positive opinion.

The sign is "a spotted or indentated appearance of the tongue resembling the top of a pepper castor, with a peculiar color,

* We have learned, since, that Mr. Jennison's remedy caused vesication of the parts rubbed.

neither white, as that which is observed in common remittent fever of the country; but to a nice observer, it exhibits an inflammatory blush, in color more nearly approaching the pink than the rose." When Dr. H. sees such a state of the tongue concentrated with the other general symptoms and signs of worms, he has no hesitation in coming at once to the conclusion that the case is one of worms; and is happy to state that his conclusion, thus arrived at, is generally correct.

Dr. H. does not wish, however, to be understood that this is the only sign by which worms may be certainly known to exist in the primæ viæ. As another very certain sign of worms, he gives "the smooth, glossy, brownish state of the tongue in leuco-phlegmatic children who have a fœtid breath, and who are generally gluttons; and who generally call the attention of the parents to the actual state of their situation by having what are vulgarly called worm fits."

In support of the two evidences of worms above named, Dr. H. calls our attention to the three following cases, which made a lasting impression on his mind.

Case I.—This was a negro boy, 6 years old, much addicted to dirt-eating, with a pale, leucophlegmatic, (?), ashy, harsh skin, haggard countenance, emaciated, inferior extremeties somewhat enlarged, abdomen considerably swollen, upper lip tumid, and *pupils dilated.* When called, we found him in strong convulsions; and on examining the abdomen, hard round tumors were distinctly perceptible in the intestines. Ordered the warm bath, and gave an enema of oil and compound tinct. of castor, which brought away a considerable quantity of hard, clay-colored scibilistic matter. So soon as we could get to see his tongue, we positively pronounced it a case of worms, although laughed at for our opinion by a professional brother. Ordered 20 grains of calomel, and 2 of gambouge, and the continuance of the warm bath. So soon as this medicine operated, we gave the China root tea and castor oil; and before sunset, he passed upwards of 337 large lumbrici. The tongue in this case was as a pepper castor top, fully indulated.

Case II.—This was a boy about 11 years old, who labored under, apparently, intermittent fever of the common grade. The tongue, in this case, was somewhat of a pale, brownish, slimy appearance. No particular symptoms or signs of worms, except sudden jerking of the extremities and spasmodic affections of the intestines resembling colic. He was obstinately costive. We proceeded to treat this case with calomel and opium, which, contrary to our expectation, caused the whole alveola process of the lower jaw to slough off.* But, eventu-

* It is a great virtue in the profession of medicine freely to acknowledge the unfortunate results of prescriptions, either from their injurious operations,

ally, about 48 or 50 large worms were discharged, one of which was a tricocephalus—after which the child had a speedy recovery.

Case III.—This was a young lady, of a cold phlegmatic temperament, who consulted us on account of dyspeptic symptoms; and the symptoms were certainly strongly indicative of such a disease. They were, disinclination to food, some eructations, pain in the region of the stomach, palpitation and fluttering of the heart, nervous irritability, interruption of the catamenia, and cold extremities with occasional exacerbation of fever.

From the general history of her previous life and the present symptoms, for she was a girl of excellent sense, we were led to look on the case as one of worms. The tongue was of a *very pale pink*, and the spots on it resembling the top of a pepper castor. We were now, in our mind, most positively confident that the great difficulty in the case, was worms; but not wishing to incur the displeasure of a beautiful young lady by *saying* that she was wormy, we pursued a very effeminate course for a few days, at the end of which we were called on most peremptorily, by the aforesaid beautiful young lady, for an opinion, as to the true nature of her case. We endeavored to parry the question, as one of no moment; but this, apparently, only increased the desire of the fair one to know the true character of her disease. But after a while, and under the most solemn and honorable assurance that no exceptions would be taken to our opinion, we *delicately hinted* that it might *possibly* be a case of worms, although *perfectly positive* in our opinion. But no

or their inefficiency, as others are thereby timely guarded against the same misfortunes. But we venture the decided opinion that in this case Dr. H. has exceeded the fact. Both books and general opinion, as well as prejudice against calomel have taught us to believe that such affections of the mouth, as is here alluded to, are the effects of mercury—its fatal, ruinous effects. They have been called "dry salivation" But facts of observation in this climate have taught us very differently. The truth is, that there is no one evidence of mercurial action in such cases. They occur without the use of mercury in any form, and are very uniformly curable by a judicious and timely use of calomel. Our practice for the last 18 years fully justifies these conclusions. Such cases have, more than all others together, been used to injure the character of calomel, and to deprive a suffering community of its benefits. These accidents are a gangrenoptic state, produced by other cause —chiefly a highly impure state of the blood from faulty hepatic action, and intestinal irritation from worms or other causes. The same state of the blood often produces, in this climate, a tendency to gangrene in other parts, as blisters, bad sores, &c. The fever in which there is this tendency is peculiar, and the disposition should be marked, and attended to before there is fatal destruction of parts. The motto "*omnia ex sanguine*" should not be lost sight of. Ultra-solidism passing away—a long and earnestly desired event, we may now hope for a salutary direction of attention to the state of the fluids which have for the last 30 or 40 years, been so much neglected. We refer the reader to an essay of Dr. E. A. Eve, in a former volume of this journal for some good observations on this disease. Editor.

sooner had we let the cat out of the bag, than we had a volley of abuse, like Ætna, Vesuvius, and Strombolo, thrown at us for saying that the pretty Miss was wormy. Now, however, the issue was fairly joined, and she had, *nolens volens*, to submit to our judgment and treatment, or depart as she had come. Preferring the former, after a few days sulking, she agreed to take such medicines as I might prescribe; on doing which, there came away upwards of 300 counted ascarides, besides some which were apparently wound up into a ball."

Since the discussion of this subject in the Medical Society of Augusta, we have been informed by an experienced and intelligent mother, that she has been always able to detect the presence of worms in children by inspecting their nostrils. She states that in this disease, they exhibit, within, an unusual redness, or somewhat irritated appearance. Our own observation has not been extended to this fact; but it may be well for it to be noticed by practitioners; and if possible to distinguish, the difference between the appearance of this part under irritation from worms *in particular:* for we have often remarked that itching of the nose may arise from different kinds of irritation in the first passages, and that this itching leads to the picking of the nose—a symptom so often referred to as evincing the presence of worms.

Strumous Ophthalmia.—We have been not a little perplexed with this form of scrofulous affection, as indeed with all other forms of it. But in this, more than others, we have recently arrived at satisfactory results, after the ineffectual use of the whole routine of other remedies for ophthalmia without any success, (except in a partial degree under the use of issues,) by placing our reliance on the external use of iodine. The form in which we have used it was as follows:—

Dissolve Iodine	gr. j.	
Hydriodate of Potass	grs. ij.	in
Water	℥ ij.	

This has been increased in strength, in the progress of some of the cases, one hundred per cent.

This iodine eye-lotion was used by dropping it into the eye; and in severe and obstinate cases, applying pledgets of lint saturated with it, at bed-time.

Lugol's iodine eye-lotion, the formula for which we have since seen,* is more conveniently prepared, and perhaps capable of longer preservation, and would, without doubt, prove equally beneficial.

* See "A new supplement to the pharmacopœias of London, Edinburgh, Dublin, and Paris, including the New French Medicines, &c., 3d London Edition, p. 199.

Take 30 drops of Tincture of Iodine,
36 drops of Laudanum, and
℥ iv. of distilled water.—Mix.

It should be borne in mind that starch and vegetable preparations containing it, are incompatibles—therefore the external application is effected by the medium of lint, and not of poultices of any farinaceons substance.

Injection of Galls.—It has been a matter of much difficulty to find a convenient and effectual lotion or injection for use in cases of prolapsus uteri, prolapsus ani, piles, and leucorrhœa. The solution of alum in water in common use has proved too ephemeral in its effect, the Port wine recommended by Dr. Good has too much abounded in stimulating, and proved deficient of styptic powers, whilst the decoction of oak bark has been extremely inconvenient on account of its staining quality. We have adopted, for use, in cases of prolapsus uteri, a decoction of galls made by boiling ℥ j. of bruised galls in ℥ xx of water, down to 16. Dr. Copeland recommends the decoction of galls, made by taking ℥ ss of bruised galls, Oiiss. of water, boiling down to Ojj.—strain and add ℥ j. tincture of galls for prolapsus ani, piles, and leucorrhœa.

The tincture of galls (tinctura gallarum of the Edinburgh, Dublin, and Paris, pharmacopœias) is made by adding ℥ ij. powdered galls to ℥ xvj. of proof spirit, and making a tincture.

An injection of galls for gleet and gonorrhœa is also made by mixing ℥ ij. each of decoction of galls and distilled water.

Doses.—Much of the uncertainty attending the use of medicines is owing, not so much to the imperfect nature of the medicine, as the want of attention to, and due discrimination of, the various particulars of the case in which it is prescribed. To some of these points the attention of the practitioner is called on the XXIII page of the introduction of the new supplement to the pharmacopœias of London, Edinburg, Dublin, and Paris; from which we take the following judicious precepts:—

"In prescribing a medicine, the following circumstances should always be kept in view: AGE, SEX, TEMPERAMENT, HABIT, CLIMATE, STATE OF THE STOMACH, and IDIOSYNCRACY," to which we would add, the *period of the disease.*

AGE.—For an adult, suppose the dose to be ONE, or 1 drachm.

Under 1 year old,	will require	1-12	or	5	grains.
2	"	"	"	"	1-8	or	8	"
3	"	"	"	"	1-6	or	10	"
4	"	"	"	"	1-4	or	15	"
7	"	"	"	"	1-3	or	1	scruple.
14	"	"	"	"	1-2	or	half a	drachm.
20	"	"	"	"	2-3	or	2	scruples.
About 21	the full dose.				one	or	1	drachm.

65 the inverse gradation of the above."

We have found no necessity for varying the dose above the close of the second septenniad, or 14 years, until we arrive at the inverse gradation demanded by old age.

"SEX.—Women require smaller doses than men, and the state of the uterine system must never be overlooked." This is a very important precept.

TEMPERAMENT.—Stimulants and purgatives more readily affect the sanguine than the phlegmatic, and consequently, the former require smaller doses.

HABITS.—The knowledge of these is essential; for those in the habitual use of stimulants and narcotics require large doses to affect them, when laboring under disease; whilst those who have habituated themselves to the use of saline purgatives are more easily affected by these remedies.

CLIMATE.—Medicines act differently on the same individual, in summer and in winter; and in different climates." This is particularly observable in the use of calomel.

"STATE OF STOMACH, and IDIOSYNCRACY. The least active medicines operate very violently on some individuals, owing to a peculiarity of stomach, or rather, disposition of body, unconnected with temperament. This state can be discovered only by accident or time; but when it is known, it should always be attended to by the practitioner.

In prescribing, the practitioner should always so regulate the intervals between the doses, that the next dose may be taken before the effect of the former is altogether effaced; for by not attending to this circumstance, the cure is always commencing, but never proceeding. It should, however, also be kept in mind that medicines, such as mercurial salts, arsenic, are apt to accumulate in the system, and danger may thence arise if the doses too rapidly succeed to each other. The action also of some remedies, elaterium and digitalis, for example, continues long after the remedy is left off; and therefore much caution is requisite in avoiding too powerful an effect, by a repetition of these even in diminished doses.—*Dr. A. T. Thomas.*

MEDICAL INTELLIGENCE.

Medical College of Georgia.—The exercises in this institution closed, for the present season, on Saturday, the 2d March last; and the annual commencement was held on the Saturday following, when the degree of Doctor of Medicine was conferred by the Vice President on the following gentlemen, each of whom was, upon examination, unanimously presented to the Board as worthy of this honor.

Ransom Linch,	Thesis on	Pleuritis,
George F. Taylor,	"	" Indigestion,
Wm. M. Burt,	"	" Congestive Fever,*
Augustus A. Cullens,	"	" Acute Gastritis,
Jno. T. Sims,	"	" Delirium Tremens,
Thos. K. Dunham,	"	" Phthisis Pulmonalis,
Henry H. Meals,	"	" Bilious Colic,
Thos. E. Bowdre,	"	" The Organs of Digestion,
Edward W. Alfriend,	"	" Menstruation,
Henry P. Turner,	"	" The Physiology of the Liver,
George E. Smyth,	"	" Physiology of the Mind,
Johannon McLester,	"	" The Liver and Bile.

After the degrees were conferred, an address was delivered to the graduates by Dr. A Cunningham, a member of the Board of Trustees, in which the graduates were counselled to regard themselves as having but entered upon the study of their profession. In illustration of the correctness of this sentiment he sketched the many and extensive studies which have a claim on him who is honored with the appellation of a learned man; and concluded with just and appropriate remarks on the duties of physicians to each other, and to society.

A very complimentary communication from the students to the faculty at the close of the session, testifies that the course of lectures just ended, was, in every respect, highly satisfactory to the class; also that the anatomical accommodations were abundant—each dissecting class having had no less than three subjects. Indeed, such are the ample and effectual arrangements made by this institution, that the opportunities it affords for practical anatomy are no longer to be doubted. The class, for the last season, amounted to 60; an increase of about fifty present on that of the previous season; which affords to the friends of the institution the most cheering prospect of its good success.

* This thesis, being on a subject of deep interest at the present time, is inserted in the I Part of this No. of the Southern Medical and Surgical Journal.

We are pleased to state that, during the last winter the College received a large accession to its library, consisting of an importation of the most valuable *new*, and *rare old* works from Europe. Its chemical department was also greatly enriched by the accession of many rare and valuable apparatus, constructed in Philadelphia during the last summer, under the immediate supervision of Professor Davis, the present very able incumbent of that department.

It is but justice, both to the graduates and to the faculty to state, that the approvals as well as the disapprovals, at the late examination were, in every instance, unanimous. Twelve candidates for graduation were successful. We are pleased to see the high standard of talent exacted in this institution to entitle the candidate to its honors. It promises well for the good of humanity, for that of the profession at the south, and for the sure and permanent prosperity of the College.

It is but justice to the whole class to state that their good order and genteel deportment has probably never been surpassed by the same number of young gentlemen of any class assembled together in such close relation, and for so long a space of time. We hope the excellent example will be imitated by others; and that young gentlemen will begin with their collegiate course, when they have not done so before, to establish that character which properly belongs to the profession they adopt, and which is so indispensable to their successful career.

Correction.—For *Scutillaria*, in the 15th line from the bottom of the 375 page, contained in the last No., read *Scutulata*.

SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] JUNE, 1839. [No. 9.

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

Outlines of the Anatomy and Physiology of the Liver. By L. A. DUGAS, M. D. *Professor of Physiology, &c. in the Medical College of Georgia.*

THE Liver, by far the largest organ of glandular structure in the human body, is situated in the upper part of the abdominal cavity, and in contact with the inferior surface of the diaphragm. It usually occupies the whole of the right hypochondriac, the upper part of the epigastric, and a portion of the left hypochondriac regions. It is said by Meckel* to occupy a larger portion of the left hypochondrium in the female than in the male subject, and by Roux† to be more prominent anteriorly in the former than in the latter sex. This difference in the position of the liver in the two sexes, though not accounted for by other writers, is attributed by Cruveilhier‡ and Saunders,§ to the use of corsets, which, by compressing the ribs, must diminish the ca-

*Meckel, Man. of Anat. vol. 3, p. 298,

†Bichat, Anat. Descript. t. 5. p. 72.

‡Cruveilhier, Anat. Desc. t. 2. p. 552;

§Saunders, on the Liver, p. 21.

pacity of the region allotted to the liver by nature. According to Cruveilhier, the liver is the principal organ affected by tight lacing. Thus exposed to circular compression, its transverse and antero-posterior diameters are diminished, and its vertical diameter increased. It then projects below the margin of the ribs, sometimes into the right iliac region, and even to the superior pelvic straight, without sustaining any organic lesion.

The diameters of the liver vary materially, not only in different individuals, but also according to age. In the adult Meckel fixes its transverse diameter at from ten to twelve inches, its antero-posterior diameter at from six to seven inches, its greatest thickness at two inches, its weight at four pounds, and its proportional weight to that of the whole body at 1-36—he also states its specific gravity to be 15.10. Its colour is of a peculiar reddish brown.

The liver is in contact superiorly with the diaphragm, inferiorly with the stomach, colon, and right kidney*, on the left with the spleen, posteriorly with the spinal column, and great blood vessels, and its anterior edge hangs slightly in front of the stomach. Its form is irregular, presenting a smooth convex surface superiorly and an uneven concavity inferiorly. The falciform duplication of the peritoneum, extending from the median line of the diaphragm to the superior surface of the liver, divides it into two unequal portions termed the right and left lobes, and its inferior surface presents a peculiar elevation designated as the lobulus spigelii ; also an antero-posterior fissure giving passage to the umbilical vein, and another perpendicular to this, in which is lodged the portal sinus, the hepatic artery, and the biliary duct.

The liver is almost entirely invested by the peritoneum, whose duplications constitute the various bonds by which it is held in situ. But, independently of this envelope, it has a proper fibrous coat, covering its whole surface and sending prolongations throughout its substance, so as to isolate its granulations and to furnish sheaths to the vena portæ, the hepatic artery, and the biliary ducts. The internal surface of these sheaths is connected to the vessels by very loose cellular tissue, whereas their external surface adheres intimately to the proper texture of the

*Cruveilheir, t. 2. p. 566.

liver and is continuous with the septa already stated to exist between the granulations.

The liver differs from all other glandular bodies in receiving both venous and arterial blood. Its venous blood is derived from the portal system. With the exception of that returning from the kidneys, bladder and uterus, the blood coming from all the other contents of the abdomen is carried into the liver by means of this system of vessels. The origins of the vena portæ are therefore found in the spleen, the pancreas, the stomach, the intestinal tube, and the peritoneal duplications, constituting what has been called the abdominal portion of the portal system, to distinguish it from that which ramifies in the liver, and is consequently termed the hepatic portion, The trunk resulting from the union of the various branches of the abdominal portion of the portal system, plunges into the inferior surface of the liver and immediately bifurcates, sending one division to the right and the other to the left. These subdivide ad infinitum in their course, which is always in a transverse direction, until they penetrate every part of the organ.

The hepatic artery is one of the branches of the cœliac artery, and follows the vena portæ in its subdivisions. It is exceedingly small when compared with the dimensions of the liver and with the arteries supplying the kidneys, the muscles, and indeed any other organ.

The veins leaving the liver, unlike those of other organs, have a caliber corresponding to that of the vena portæ, instead of that of the hepatic artery. They converge from all points towards the vena cava, in which they empty. Proceeding thus from the anterior to the posterior edge of the liver, they cross the divisions of the vena portæ, whose course is from the centre to the lateral extremities of the organ. This circumstance, when viewed in connexion with the fact that they are not separated as are the other vessels, by loose cellular tissue, from the glandular structure, but adhere closely to it, and, consequently, remain open when a section of the liver is made, will serve to distinguish them from the portal veins.

The lymphatics of the liver are divided into superficial and deep seated, and are so numerous that they were first discovered in this organ, which was long considered the great origin of this class of vessels. They pass into the ganglions about the in-

ferior surface of the liver, and in the lumbar region, and many of them communicate freely with the thoracic duct.

The nerves of the liver are derived from the sympathetic and from the pneumo-gastric, and it is thought by some that it receives filaments from the phrenic nerve.

The pori biliari are first seen in the capsule of Glisson, accompanying the subdivisions of the vena portæ and hepatic artery, and subsequently unite after the manner of veins, until they result in a large trunk, the hepatic duct, which makes its exit at the inferior surface of the liver, where it meets the cystic duct, the united ducts then assuming the name of ductus communis choledochus, and opening into the duodenum.

The cystic duct, as its name implies, leads from a reservoir—the gall bladder—which is situated beneath the great lobe of the liver, and immediately to the right of the antero-posterior fissure. This receptacle is of an oblong shape, may contain from one to two fluid ounces, and consists of a mucous membrane, a fibrous coat, and a peritoneal investment. Amussat believes it to contain certain muscular fibres calculated to expel its contents.

The texture of the liver differs in appearance from that of all other secerning organs. The whole organ consists of granulations, identical in all its parts, and whose intimate structure it is interesting to determine. Ferrein, who lived in the earlier half of the eighteenth century, regarded these granulations as of two kinds, distinguished by their color, the one being yellow, and the other of a brownish red; hence the division of the hepatic texture into a yellow and brown portion, which is still retained by anatomists, who have also designated the latter as the *medullary*, and the former as the *cortical* substance of the liver. According to Cruveilhier, however, these distinctions are founded in error, for, in the first place, the two colors are not always perceptible, and in the second, whenever they are visible they both exist in the same granulation, which is then yellow in the centre where the bile exists, and red at the circumference in which the blood resides.

This distinguished anatomist having studied the liver of swine, in which the granulations are remarkably well developed, observes that these granulations are small ovoid or rather polyhedral bodies, with five or six faces applied to each other, in such a man-

ner as to leave no space between them ; that it is perfectly manifest, that there is but one kind of granulations, that they are not, as believed by Malpighi, disposed in small lobes, but are in juxta-position, and that each is contained in a distinct cell, formed by projections of the fibrous membrane of the liver. The granulations being thus isolated, one or more of them may be diseased to the highest degree without necessarily implicating the remainder. They are, however, found to be of different sizes in different individuals, without regard to the general dimensions of the organ. Cruveilhier further observes, that in those cases in which the liver is softened by disease, as soon as the envelope is torn, a portion of the substance runs out in the form of a soft yellowish-brown pulpy matter, and that if this pulpy matter be thrown in water, myriads of small though distinct yellowish granulations may be seen, similar to small grains of dried raisins, which are appended to the ramifications of the various orders of vessels by vascular pedicles.

A granulation, when examined with a simple microscope, is distinctly seen to be porous, and to resemble the pith of the elder ; and this porous or spongy tissue may be easily filled by injecting the vena portæ. The granulations may, however, be penetrated by injections whether thrown into the vena portæ, the hepatic veins, the hepatic artery, or the biliary ducts, and the fluid thus injected passes with more or less readiness from one of these systems of vessels into all the others, with the exception of the lymphatics.

Each granulation consists, therefore, of one or more ramifications of the vena portæ, of the hepatic veins, of the hepatic artery, of the biliary ducts, and probably of the lymphatics and nerves, all of which vessels communicate more or less freely. The respective disposition of these integrant parts in the granulation, was determined by Cruveilhier, by successively injecting 1st, the vena cava, and consequently the hepatic veins, with blue wax ; 2nd, the vena portæ with red ; 3rd, the hepatic artery with red also ; and 4th, the hepatic duct with yellow. The liver was that of a pig, and was placed in tepid water, whilst the injection was pushed with gradually increasing force. During the injection of the cava and portæ, the wrinkles of the liver were seen to disappear, and the central depressions of the

superficial granulations to swell out. It was evident that the granulations were filled by the injected matter.

Having been thus injected, the liver was subjected to the action of chemical agents, and presented the following appearance. 1st. The blue matter, contained in the cava, had penetrated into the central portion of the granulations, that portion usually called the yellow substance of the liver. 2nd. In the middle of this central portion was seen the yellow matter, or that thrown into the hepatic duct. 3rd. At the circumference of the blue injection, was found the red or that contained in the vena portæ and hepatic artery, filling the portion usually called the red substance of the liver. Each glandular grain then presents a vascular apparatus so disposed that a biliary duct occupies the centre, and is surrounded by ramifications of the hepatic veins, which last are in their turn encircled by the vena portæ and hepatic artery. The disposition of the artery and vena portæ with regard to each other, is such, that on tracing them through the liver, it is found that the former always accompanies the vena portæ and biliary ducts in the common sheath, and that the arterial ramifications penetrate and are lost in the coats of the vein and duct in the same manner that the bronchial arteries are lost in the parietes of the bronchial tubes. Cruveilheir, therefore, considers the hepatic artery as constituting the vasa vasorum of the vena portæ and biliary ducts.

These injections explain the cause of the yellow and red substances seen in each granulation, prove that there is a portion of each grain not susceptible of being injected, and establish their porous or spongy character, which is perfectly visible to the naked eye, when a section of the liver thus prepared is held up to the sun.

In short then, the liver is an agglomeration of grains of an ovoid or rather polyhedral shape, and exactly adapted to each other, though independent. Each granulation is contained in a proper fibrous capsule, all of which are connected by prolongations of the general envelope of the liver and of the capsule of Glisson.*

The liver has, by common consent, been always classed amongst the glands, and its texture is generally considered a

* Cruveilhier, t. 2. p. 575.

perfect type of what has been denominated by Bichat the glandular tissue. The truly philosophic researches of Beclard and others, have, however, long since demonstrated the error of Bichat's views on this subject, and rejected this from the number of elementary tissues, properly so called. However convenient and expedient it may be to throw together under a common head the various organs termed glandular, it should always be borne in mind, that the intimate structure of these bodies is far from identical. Indeed, the most superficial observation will detect striking differences between the salivary, the hepatic, and the renal glands: the salivary are made up of small and apparently homogeneous bodies, held together by loose cellular tissue, from which circumstance they are styled conglomerate; the renal present two portions intimately connected, though very distinct, viz: the cortical, and the medullary or tubular; and the hepatic differs from the two foregoing, not only with regard to aspect, but also with regard to the elements which enter into its composition, viz: the portal veins and blood, and the spongy erectile cellular tissue by which its dimensions may be increased or diminished without affecting its integrity. The psesence of this erectile tissue, so admirably demonstrated by Cruveilhier, is highly important both as a distinctive anatomical feature, and as illustrative of one of the functions of this great viscus. I say *one* of its functions, for I hope to establish the fact that the liver differs from all other glands in not being exclusively a secretory organ.

Let us now turn our attention to the *development* of the liver, one of the most interesting points of its history. This is not only one of the first organs formed* in the early product of conception, but its relative volume, to that of the fœtus, is greatest the earlier it is examined.† It may be distinctly recognised as early as the first week of gestation,‡ in the midst of the gelatinous fœtal mass. Walter§ represents its weight in the fœtus of three

*Cruveilhier considers the liver the first organ formed, whereas Andral (Anat. Pathol. t. 1. p. 109,) and others regard the heart as preceding the liver.

†Meckel, Man. of Anat. v. 3. p. 308.

‡Cruveilhier, Anat. Desc. t. 2. p. 588.

§F. A. Walter, De Structura Hepatis, &c. p. 45.

weeks, as equal to half that of the whole body. It continues thus relatively voluminous until about the fourth or fifth month when the development of the other parts of the body seems to take the ascendency, and to reduce its proportion at birth to 1-18th of the weight of the whole body. It however continues to grow until birth, and then to diminish during the first year following. This diminution, though generally admitted to occur principally in the left lobe, is thought by Cruveilhier to extend to the whole organ. Certain it is that prior to birth the liver occupies nearly the whole of the abdominal cavity, filling both hypochondriac regions, and extending down to the pelvis, and that it is restricted to the regions it subsequently occupies, only by its diminution of volume, and the simultaneous expansion of the abdominal cavity. The falciform ligament which originally divided it into equal portions, now leaves the greater part on the right. The left portion must either undergo diminution of volume, or remain stationary whilst the right increases. The relative dimensions of the liver gradually diminish with age, so that its volume may be said to lessen in a direct ratio with the increase of the age of the individual--it is smallest in old age.

The general configuration of the liver also varies considerably during its development, but these variations are probably not connected with its functions, and are merely such as to render it more adapted to the locality it occupies. The gall bladder, although existing in a rudimentary state at the earliest age, cannot be regarded as fully developed until the latter period of gestation.

From the foregoing hasty sketch of the anatomy of the liver, from the early appearance of this organ in fœtal life, and from the fact of its existence in almost every known animal, we must concede to it a degree of importance inferior to none other in the system, save perhaps the nervous centres. Yet there still exists much difference of opinion with regard to the agency the liver exerts in the animal economy. The great majority of physiologists, however, agree in considering this organ a gland, and its office the secretion of bile. We have hinted above at some of the features which distinguish this from all other unequivocal glands.

That the liver does secrete a peculiar fluid termed bile, is well established. The fluid may be seen issuing guttatim from the

orifice of the ductus communis cholehochus in the living animal, and it may be collected in considerable quantities in the hepatic reservoir or gall bladder, into which it flows from the liver, although under circumstances not well understood. It is true that some have believed the cystic bile to be yielded by the peculiar action of the mucous membrane lining this sack, but the observations of others have conclusively demonstrated that it passes from the liver to the gall bladder, by a retrograde course of the fluid, after it has reached the orifice of the cystic duct.

The liver being supplied with blood from the venous as well as arterial system, has given rise to various conjectures and much argument with regard to the true source from whence the bile is derived, some believing it to be secreted from the venous blood, others from the arterial, and a few admitting that it is probably afforded in part by both fluids. We can see no valid reason for doubting that in this case the secretion is derived exclusively from the arterial blood, the known source of all other secretions.

The oldest and still most prevalent belief is, that bile is derived from the portal blood.* Let us examine the arguments in favor of this opinion. It is urged first, that from the very fact of the vena portæ being peculiar to the liver, it must be intended for the special function of this organ, which function is the secretion of bile. It is evident that this argument rests entirely on the ignorance of any function being performed by the liver other than that of secretion, and also on the apparent necessity to assign a special function to the vena portæ. If, therefore, another function can be attributed to it with as much plausibility, the argument must fall to the ground.

2nd. That the distribution of the hepatic artery to the vascular branches ramifying in the liver, shows it to be merely a nutritious artery. But the same may be said of the arteries supplying those glands that receive no venous blood, and whose secretion as well as nutrition must be derived from the same source.

3rd. That the portal blood is better adapted to the secretion of bile than arterial blood, inasmuch as it contains more carbon and

*Of those who advocate this belief we may cite—Saunders, Op. Cit. p. 28. Merat, Dict. des Sciences Med. t. 16. p. 88. Renauldin, ibid. t. 3. p. 125. Johnson, on the Liver, p. 56. Meckel, Op. Cit. v. 3. p. 307. Portal, Anat. Médicale, t. 5. p. 291.

hydrogen, which enter largely into the composition of bile. This is a mere supposition; but, admiting its correctness, why is it that adipose matter, marrow, &c. all of which also contain the elements alluded to in great quantity, should be formed from arterial instead of venous blood? There is certainly no more analogy between venous blood and bile, than there is between arterial blood and fat; and the act of secretion knows no regard to chemical affinity, so far as it has been studied, the new combination being formed under the influence of laws essentially vital and unknown. If we were in this manner to determine the source from whence any other secretion is derived, it would certainly very seldom if ever be traced to the arterial blood. Moreover, if the liver were to rid the portal blood of its carbon, the blood returning from the liver ought to be decarbonized, or in other words arterialized; yet no one, we believe, has ever been able to detect any difference between the blood taken from the portal vein and that found emerging from the liver. This cannot be said of the arterial blood sent to this organ: it enters with certain characters which it loses before it leaves the liver. Does it lose them all by furnishing nutritious particles alone? A conclusive reply must be found in the analogy of other glands.

4th. It is insisted that the hepatic artery is too small to supply the demand both of nutrition and secretion, and that the portal vein is more proportioned to the size of the liver. But it should be remembered that the hepatic artery is not the only source by which the liver is supplied with arterial blood. This organ receives branches from the internal mammary, the epigastric, the diaphragmatic, the gastric coronary, the emulgent, and the right spermatic arteries, all of which, though small and irregular, must furnish a quantum nearly, if not quite, equal to that sent by the hepatic artery. We should also, estimate the quantity of blood needed by the liver for nutrition, and the quantity required to meet the demands of the secretory process.

It has already been stated that in estimating the quantity of arterial blood sent to the liver, the error is very commonly committed of looking at the caliber of the hepatic artery alone, whereas it should be viewed in connexion with the united caliber of all the smaller arteries which indirectly reach this organ, and by so doing it will be perceived that the liver is by no means so scantily supplied with this kind of blood as is generally im-

agined. It certainly *receives* a much larger supply than the lungs can possibly derive from the bronchial arteries, which are now admitted to be destined to the nutrition of these organs, and which I think probably furnish a large portion of the bronchial secretions. Again, if from the quantity of arterial blood sent to the kidneys, or even to the salivary glands, we deduct the portion consumed for the copious secretion of these glands,* it will be found that what is left for nutrition cannot be much.

If it be argued that the supply is sufficient for nutrition, but not for secretion also, it may be replied that this depends on the estimate made of the quantity of bile secreted. If this be, as has been advanced by some,† equal to several pounds per day, the argument will then be strong; but if, as is almost certain, it does not exceed a few ounces, the case must be very different. Dr. Johnson‡ estimates the quantity per day at from six to eight ounces; Faithorn§ at six ounces; Magendie, Adelon, &c. believe it very small, and justly refer to the size of its receptacle, the gall-bladder, in confirmation of their views.

Having endeavored to show that the quantity of arterial blood sent to the liver is adequate to the demands of this organ for nutrition, as well as for the elimination of bile, our position with regard to the fluid which yields bile, will still be strengthened by comparing the great quantity of portal blood with the paucity of the biliary secretion, for, if we are to infer the quantity of product from the quantity of circulation, as has been done by those who deny that there is arterial blood enough in the liver, we would be led to the conclusion, that the biliary exceeds in quantity all other secretions. Such, however, is not the case, and we must admit that the venous blood sent to the liver is thus disposed of for other uses than for merely furnishing the elements of bile.

Pathological anatomy also furnishes additional, and perhaps the strongest grounds for the belief we advocate. Abernethy met with an instance in which the trunk of the ve-

*The secretion of saliva is very great even under ordinary circumstances, but is astonishing in the case of tobacco chewers, who not unfrequently throw off a half pint in the course of an hour.

† Dict. des Sciences Méd. t. 3. p. 128. Haller, Element. Physiol. t. 6. p. 604. Schultz, De Aliment. Concoct. p. 107.

‡ Op. Cit. p. 55.

§ Faithorn, on the Liver, p. 8.

na portæ terminated in the vena cava; yet bile was found in the biliary ducts, which could have been derived only from the hepatic artery.* Another case, somewhat similar, is recorded by Lawrence;† and a third by Monro in his Elements of Anatomy —still other instances, though less entitled to credit, are related by Lieutaud and Huber. All these cases prove conclusively that bile may be formed from arterial blood alone, and we know that little or no bile is secreted during the very period at which the liver receives the largest quantity of venous blood, that is to say, prior to birth.

Why then is the portal blood sent to the liver, instead of being poured at once into the vena cava? We believe the collection of venous blood in the liver necessary to insure a steady and uniform supply of blood to the right side of the heart,‡ and also to prevent the too sudden admixture of foreign matters absorbed by the alimentary surface with the general mass of the circulation.§ Let us examine the arguments in favor of this belief.

One of the functions most indispensable to the continuance of life, is the action of the heart, by which the blood may be sent to the lungs for renovation, and then thrown to all parts of the body; and any deviation from the normal performance of this function is immediately attended with a corresponding impairment of health. It is therefore highly desirable, that the supply of the fluid thus acted on should be exempted, as far as possible, from contingencies, and especially from those more or less dependent on the exercise of other functions. The afflux of blood to the heart may be increased or retarded by a variety of circumstances—increased by febrile diseases, by lesions of innervation, by violent muscular contractions expelling a large quantity of blood from the muscular veins, by sudden exposure to cold, or by chills driving the cutaneous circulation to more deep seated organs; by the ingestion of food, especially fluids, which add more or less largely to the mass of blood, &c—diminished by diseases of debility, by obstruction of the veins from compression, by insufficient nutrition, hemorrhage, excessive secretions, &c.

* Philos. Trans. 1793, v. 1. p. 59. et seq.

† Med. Chir. Trans. v. 5. p. 174.

‡ Broussais, Tr. on Physiol. p. 389.

§ Magendie, Précis de Physiol. t. 2. p. 260.

Now it is evident that unless there were provided a reservoir to receive the blood when thus thrown from the surface and extremities towards the centre of circulation, and also to insure a sufficient supply to the heart under an opposite state of the system, the action of the heart would be exposed, not only to continual vicissitudes, but also frequently to fatal repletion, or want of circulating medium. The liver is this reservoir, and is constructed accordingly. The vessels *bringing* blood to this organ being surrounded by a peculiar cellular sheath, are well adapted to the alternate increase and diminution of their caliber consequent on the fluctuations of the circulation. The veins *leaving* the liver are not supplied with this sheath, because they do not participate in the repletion of the hepatic artery and vena portæ, and are probably filled principally by the suction power of the heart and thorax. The case is different with regard to the spleen, an organ confessedly subject to great fluctuations of capacity. Here we find both arteries and veins surrounded by a cellular sheath, because the splenic veins, being a portion of the portal system, must become distended whenever the hepatic portion is in a state of repletion. The office of the spleen appears to be supplementary to that of the liver in regulating the circulation. The construction of the vascular system of these two organs is such, that the circulation of the one must ever influence that of the other. But besides this, the spleen undoubtedly performs the office of a diverticulum from the stomach, and perhaps the liver. The great secerning action of the stomach, and probably of the liver, being intermittent, that is to say, being suspended during the intervals of digestion, these viscera must require a larger supply of arterial blood when the gastric juice and bile are freely poured forth than at other times. The necessary consequence of this state of things must be a diminution of the quantity of arterial blood allotted to the spleen during digestion, and an increase of this quantity during the intermission of this proeess, for these three organs derive their arteries from a common trunc, the cœliac.

The study of these diverticula has not attracted sufficient attention. Their necessity, wherever there exists an intermittent secerning action, will be made apparent by examining this subject in other parts of the body. The salivary secretion, for example, is much more abundant during the mastication of food

than at other times, and we accordingly find in the vicinity of the salivary glands the thyroid body capable of diverting the blood when not needed by them; and we find this body proportionately much larger before birth, when no saliva is needed, than subsequently, when a portion of the blood is consumed in the production of this fluid. If we now look to organs whose secretion is uninterrupted after birth, but was not effected previously, we find them provided with a diverticulum only during fœtal existence. Such is the case with regard to the kidneys, whose diverticula, the supra-renal capsules, though large prior to birth, gradually disappear as their blood is abstracted for the secretion of urine. The thymus, so largely developed in the fœtus, is probably the diverticulum of the pulmonary mucous membranes, and accordingly dwindles away on the supervention of the permanent secretion of these surfaces. But it does not disappear after birth in those animals whose habits subject them to a suspension of respiration more or less lengthy. The able researches of Meckel have shown that it continues in the hibernating mammiferœ, and in those which seek refuge under water, or in the earth, thereby requiring a temporary cessation of respiration. It is deficient in fish whose respiratory apparatus is devoid of bronchial tubes, and consequently of the secerning mucous membrane so extensively developed in other animals.* All the organs performing the office of diverticula, are proportionably larger before than after birth, and all gradually perish after birth, excepting those appended to organs whose action is intermittent, and which, consequently, still stand in need of them during the intervals of secretion.

The spongy and elastic texture of the liver readily permits it to adapt itself, by expansion or contraction, to the quantity of blood sent to it, as may be seen by alternately filling and emptying the vena portæ.† From its volume and its vascularity, it contains at all times a large quantity of blood, which has free access to the heart. Under ordinary circumstances of health, it furnishes a quantity of blood proportioned to that derived from other sources; but let the equilibrium be deranged by abnormal action in some other organ or tissue, and it is at once called on to

* Carus, Anat. Comp. t. 2. p. 294, et. seq.

† Cruveilhier, Op. Cit. t. 2. p. 550.

regulate it, as already suggested. The circulation of the liver must be closely connected with that of the lungs, for if the capacity of these for blood be diminished, the supply to the right side of the heart must be correspondingly lessened, the consequence of which will be an accumulation in the venous system. But the general venous system, deriving its supply from the lungs, through the left ventricle and arteries, would not participate so much in this accumulation as the portal system of the liver, which is supplied, in part at least, by absorption from the alimentary mucous surfaces. It is in this manner we may explain the morbid condition of the liver found in almost every case of chronic pulmonary disease, and in many of the acute.

The intimate relation of the liver and lungs is strongly manifested by the relative development of these organs prior to birth, the volume of the liver diminishing as the capacity of the lungs increases.* Indeed this relation is remarkable, not only in the human species, but also in the lower animals, whose liver is always developed in an inverse ratio to the lungs.

The almost simultaneous appearance of the liver and heart in the early product of conception, and, as has already been remarked, long before the secretion of bile can be necessary, would of itself favor the idea of some connection of functions. In some of the inferior animals, in reptiles and certain birds, the liver actually surrounds the heart like a vast sponge, and has been supposed† to supply the place of the thymus and thyroid bodies when these were missing. That the liver may supply the deficiency of these diverticula is highly probable, since it is the diverticulum of the whole body, and before birth, specially of the lungs. The facts that the liver is found in all animals possessing a heart, and that it is wanting in all the cases of malformation in which the heart is deficient,‡ tend strongly to corroborate the belief that the liver is an essential part of the circulatory apparatus, independently of its secerning function.

We have stated that besides insuring a steady supply of blood to the heart, the portal circulation by its slow passage through the liver, would prevent the too sudden admixture of foreign

* Carus, Op. Cit. t. 2. p. 260.

† Ibid, t. 2. p. 293.

‡ Andral, Anat. Pathol. t. 1. p. 109.

matters brought from the alimentary canal with the general circulation. We presume it will hardly be denied at present, that a very large portion of the matters absorbed at the mucous surfaces of the digestive apparatus, is taken up, either directly or indirectly, by the veins. The experiments of Magendie and others, would seem sufficient to set this subject at rest. A very large portion of the blood sent to the organs from which the portal system takes its origin, must be consumed in nourishing these organs, and in furnishing the secretions which so abundantly flow from them. The blood of the vena portæ is, therefore, derived partly from the arterial supply, and partly from the substances thrown into the digestive apparatus, especially fluids. The caliber of the thoracic duct, as well as the slow progress of its contents, should of themselves lead us to look for some other channel for the admission into the circulation of the immense quantities of fluid ingesta taken and passed off under certain circumstances in a comparatively short time. The writer has been informed, by a person of undoubted veracity, that he saw a man take in the course of a day, thirty eight glasses of beer, and six of mint juleps, at the same drinking establishment, without injury. Now as these glasses measure half a pint, the individual must have taken eleven quarts, or nearly three gallons; and perhaps, as our informant further remarks, he may have patronized, in the mean time, some other establishment, so as to make the quantity still greater. Besides all this, he took his meals as usual. Did all this fluid pass through the thoracic duct? We think not. Indeed it is not necessary to invoke in this matter any other testimony than that of the justly celebrated Magendie.

But, to return to our subject, foreign matters are taken up into the venous circulation and carried to the liver, in which they are diluted, and from whence they flow *gradually* to the heart, and into the general circulation. In order to prove the advantage of this channel for the ingress of deleterious matters into the circulation, Magendie made the following experiments. He injected *forcibly* into the crural vein of an animal, a certain quantity of atmospheric air, and death immediately ensued, whilst the same substance thrown also forcibly into the vena portæ produced no bad effect. The injection, however, when made *slowly* into the crural vein, was harmless. The same experi-

ments made with a small quantity of bile, were attended with similar results; so that it seems that noxious substances may be introduced *gradually* without the bad consequences which attend their sudden admission into the circulation; and moreover, that by passing through the liver, this gradual introduction is secured, and consequently the bad effects prevented.

These facts explain why it is that substances of decided deleterious properties may, with impunity, be carried into the circulation, through the digestive tube, in large quantities, when they would prove fatal if introduced otherwise. We have a daily illustration of this in the free use made of alcoholic beverages in our country, and likewise in the difference of effect produced by the free use of concentrated spirits and of mild wines. They will also account for the serious injury sustained by the *liver* of those who indulge in the use of ardent spirits; for, if the alcohol be carried directly to the liver, and sojourn there, until it be gradually carried off into the general circulation, it must necessarily exert a stimulation of the liver, which, when kept up for a length of time, occasions an excessive nutrition or hypertrophy of the cellular tissue of the organ, condensation of tissue, and finally an impairment of the wonted elasticity so necessary to the general equilibrium of the circulation.

In recapitulating then the functions of the liver, we must distinguish those which precede from those which follow birth. Prior to birth the liver is the great reservoir of new blood brought from the placenta; it has an increased volume in order to retain the blood subsequently to be lodged in the pulmonary tissue, and it secures a ready and uniform supply to the heart. After birth it still continues the reservoir of new blood, no longer brought from the placenta, but from the alimentary canal; it still supplies the demands of the heart, equalizes the circulation, dilutes foreign particles brought into the blood, perhaps assimilates them, and finally allows them to be *gradually* introduced into the general circulation. But, besides all this, the liver performs now a new office—it secretes bile—a fluid neither exclusively excrementitious nor recrementitious, but partaking of the nature of both, and the real use of which is still unknown.

Observations on an Affection of the Throat, in which a False Membrane is formed, terminating in Croup. By THOMAS Y. SIMONS, M. D. *formerly President of the Medical Society of South Carolina, and late Professor of the Theory and Practice of Medicine in the Medical College of South Carolina.*

The object of this communication, is to describe a peculiar form of affection of the throat, which I would term membraneous, and which terminates in croup. I have been a practitioner of medicine in Charleston for eighteen years, yet I have not, until this year, understood its character, nor had I seen a case in the incipient stage, but I had seen a few cases in the last stage, and I confounded them with Cynanche Maligna or Putrid Sore Throat, as have most of the systematic and elementary writers. From Hossack's Lectures, recently published, I extract the following: "In other instances again, the same peculiar inflammation and ulcer travel down the trachea, producing symptomatic croup or cynanche trachealis. (See Dr. Barde's excellent dissertation on this disease, as it prevailed in this city many years since. *Am. Phi. Trans.*) Dr. Cullen refers to this dissertation in his Nosology, under the head of Cynanche Maligna, which is its proper place, the symptoms of croup being not primary but symptomatic." And, again, in describing the treatment of the same disease, we find the following: "But, as I said before, my chief dependance is upon the yeast, borax and honey, as my local application, with a solution of the sulphate of copper or lunar caustic occasionally to touch the parts before using the yeast gargle. In children, cleanse the throat by a piece of sponge, attached to a small piece of stick or whalebone, or the common swabs of linen. This is necessary, as the children swallow this acrid matter; and it renders the disease more dangerous—the greater fatality of this disease in children is partly ascribed to this circumstance." M. Bretonneau is the only one who has given a partial description of the disease, as I know of. I quote from Good: "More commonly, as has been shewn by Bretonneau, the inflammation commences on the tonsils or the pharynx, and from thence spreads at the same time downwards to the larynx, and upwards to the nostrils. The affection usu-

ally stops at the œsophagus, but occasionally the false membrane extends to the stomach. In children the disease almost always begins in the bronchiæ or larynx, and very rarely extends beyond the glottis; while in adults it more frequently originates on the tonsils or pharynx. M. Bretonneau has also shown, that what may be called plastic angina has been frequently mistaken for malignant sore throat." But here I differ with him, for in children it likewise and principally occurs, and the larynx, trachea, and bronchi, and not the œsophagus, are affected. I will now give a brief description of the symptoms and pathology of the disease, and the treatment—and here I may remark, with success, when I have had the patients in the earliest stage, and could get them to submit to the remedies. The disease generally commences with a chill, succeeded by fever, and an appearance of slight catarrh. The paroxysm of fever is about forty eight hours, of greater or less intensity, when it generally subsides, which is often a deceptive symptom, and may lead to the impression that the patient is getting better. There is generally an enlargement of the glands of the throat—in some instances this is not apparent—but upon examining the internal portion of the throat, around the tonsils will be found a white surface or coating, of a jagged appearance, which has led to the notion that it is an ulceration, which is not the case. This will extend to the posterior portion of the uvula. When this takes place the breathing through the nostrils is much impeded, and a vitiated mucus issues from the nose. There will be found no difficulty of swallowing, or any pain, even when pungent and irritating substances are taken, for reasons which will presently be given. If the disease is not arrested, the respiration becomes affected, and partially interrupted—a huskiness of voice is observed, which gradually increases, with an increased difficulty of breathing. Next follows a barking cough, which usually commences the fourth, fifth, or sixth days, shewing that the disease has extended to the trachea; then comes a heaving of the chest, and occasionally sensations of suffocation, when it is thought the patient is dying. This is an evidence of an imperfect performance of the function of respiration. The skin now becomes cool, and the capillary circulation languid and congestive. The brain becomes partially affected; a heavy drowsiness occasionally occurring, which is interrupted by difficult respira-

tion; but the mind when the patient is aroused is unimpaired. This gradually progresses; the aperture of the larynx, trachea and bronchi diminishing, and the functions of respiration becoming more and more impaired, until death ensues.

From investigation into the pathology of this disease, I found the following results. The white appearance of the throat is, I believe, an exudation of coagulable lymph forming a false membrane, which becomes extremely dense, commencing at the tonsils and bronchi, extending, if not arrested, to the trachea and bronchi, and terminating in death. Beneath the false membrane the mucus membrane has the appearance of congestion, in place of inflammation, having very little of sensibility, and not much excited by stimulating applications. It will thus be seen why no pain is felt in swallowing. An important diagnostic symptom, and the general appearance of the patient, independent of the laborious breathing, would mislead the ordinary observer. I will now succinctly give the practice I have found successful. In the first instance I have used emetics, either of the sulphate of zinc and hippo, or the tartar emetic and hippo, in doses suitable to the age of the patient; and have then used injections of a mild character, and if not sufficient, mild aperients. The next point is to attend to the local affection. I apply leeches to each side of the throat, so as to produce a large bleeding, to obviate the congestion, and the tendency to the formation of the false membrane. The next and important point, is the local application to the internal part of the throat. To depend upon gargles of any kind, I regard as useless, unless the cases are mild. A mop should be used, composed of fine and well prepared sponge, or linen, and a solution of nitrate of silver, say four grains to the ounce, or diluted muriatic acid, in which the mop should be introduced, and then rolled round the tonsils and neck of the uvula, so as to detach as much as possible of the false membrane—and gargles may be used, as diluted pyroligneous acid, say one drachm to an ounce of water, after the mopping. The mop should be used at least three times a day, and persevered in until the white appearance ceases, and healthy action ensues, for it is amazing how quick the membrane will be reproduced. Mushroom like, after having thoroughly cleansed the throat, I have seen it reproduced in five hours. I regard the mopping as indispensable in the accomplishment of a cure, as I will presently

show by some cases. This plan is far from being new. The mop has been frequently used, and the lunar caustic, muriatic acid, and corrosive sublimate, with success by other physicians. But what I mean to say is, that it has not been sufficiently used, and the disease has been considered a cynanche maligna, and the white appearance round the throat, as ulcerations; and apprehensions were felt that the patient would swallow it, and produce irritation in the stomach and bowels, while, on the contrary, the whole danger is in the accumulation of this false membrane, and its extension to the trachea and bronchi, (one of which I traced to that point,) and by impeded respiration producing death.

I will now state a few cases which I have had.

The first case which I had, in the incipient stage, was that of the daughter of Mr. ———. He had been in the country with his family, and returned with a daughter having the membraneous sore throat, of four days duration. The disease had extended to the larynx and trachea. Croupy symptoms commenced, and in a few days the case proved fatal. While this case was in progress, his eldest son was attacked immediately—I gave an emetic of hippo and sulphate of zinc, which operated well. The glands being much enlarged, I applied six leeches to each side of the throat, and allowed them to bleed freely. The formation of the false membrane having commenced on the tonsils, I next made a solution of nitrate of silver iv grs. rain water ℥j, and with a mop of fine sponge, rubbed every portion of the throat freely, touching every surface. This was repeated three times a day regularly; and every day two leeches to each side of the throat were applied, until the swelling subsided. I found the leeches diminished the swelling and congestion of the vessels, and the solution of the nitrate of silver arrested the progress of the disease, preventing its extension beyond the pharynx, and produced a healthy action of the vessels. His other daughter was seized, and treated in the same manner, and with the same happy result. My distinguished relative and friend, Dr. B. B. Simons, was in consultation with me in this case. Independent of these, I had several cases which proved successful. Indeed every case which I have seen in the incipient stage, where the mop could be used freely, the patients recovered; and when it could not be used, proved fatal, although all the other remedial agents had been administered. In one family this was striking-

ly proved. Four of the family, the mother and three children, were successively taken with this disease. The mother and one child allowed the mop to be used freely, and they recovered—the others from constitutional timidity resisted, and all efforts to apply the mop proved unavailing, and they died. It is true, however, there was great difficulty in getting them to take medicine. I should here remark, that although I prefer the nitrate of silver solution, diluted muriatic acid, or pyroligineous acid, or a weak solution of corrosive sublimate might accomplish the same ends.

Before concluding I will condense my views.

1st. I use emetics, and as often as I find a disposition to accumulation of phlegm.

2nd. I use leeches largely the first time, and one or two every day to keep down the congestive state.

3rd. I use the solution of nitrate of silver, to remove the false membrane, and produce a healthy action.

The bowels are kept open with injections, and occasionally with castor oil—and if required, some calomel is used, and purged off with oil.

Part II.—REVIEWS AND EXTRACTS.

A Lecture on Menorrhagia, vel Hæmorrhagia Uteria, or Uterine Hæmorrhage. By N. Chapman, M. D. *Professor of the Theory and Practice of Physic in the University of Pennsylvania.*

This lecture of Professor Chapman was reported for the Medical Examiner, and is contained in the thirteenth and fourteenth numbers of the second volume of that valuable periodical, in which a series of lectures are in the course of publication, from the same respectable author. These lectures of Professor C. seem to contain the substance of his general course in the University to which he is attached; and as they are from one so long and extensively conversant with professional matters, theoretical and practical, they cannot fail to contain much of constant interest to the profession. Such have, however, been the

changes in the various departments of the profession, and more especially in physiology, minute anatomy, pathology, chemistry and surgery, that, things written thirty years ago, seem to the medical reader of the present day, a century old. Such is, in some respects, the character of the lecture before us. In some respects, however, the state of medical science was better in the seventeenth than in the eighteenth century: but we will consider the lecture somewhat in detail.

As might be presupposed, on reading the caption, Professor C. commences his lecture by an examination of the nomenclature by which the disease under consideration is distinguished.

The following paragraphs contain the Professor's criticism on the term *menorrhagia*, and his reasons for substituting in its stead, *hæmorrhagia uteri*.

An opinion having been formerly entertained that the whole of the extravasations of a sanguineous aspect from the womb were of a menstrual nature, the former term, which means an undue flow of the menses, was applied pretty much in the sense in which we now employ hæmorrhagia uteri, or uterine hæmorrhage. Elsewhere,* I trust I have shown, that the catamenia, instead of blood, are a peculiar fluid, the product of a secretory action of the uterus. Nor is it true, as many suppose, that all of the periodical discharges from this source are menstrual. On the contrary, I have found, in every instance in which such were copious, pure coagulable blood to be emitted. Even where, in the commencement, the fluid seemed to be partially menstrual, it lost that character, and became blood.

Granting, then, the correctness of this view, and which I think very few can now be found to deny, the impropriety of the term menorrhagia is obvious. Convinced of this, some have proposed the substitution of metrorrhagia. But as it means only a discharge from the womb, it is vague and unsatisfactory. Nothing can more precisely express the affection than hæmorrhagia uteri, and hence it should be adopted to the exclusion of all other titles. p. 197.

It is obvious that the objections to the term *menorrhagia*, are founded on the physiological doctrine that the "catamenia, instead of blood, are a peculiar fluid, the product of a secretory action of the uterus." Were this proposition granted, which he takes to be the case in the second paragraph above quoted, the reasoning founded on it must lead to the conclusion, that the term menorrhagia is ill appropriated to the designation of a preternaturally copious flux of blood from the uterus, and that hæmorrhagia uteri would be a most appropriate name for the designation of this disease. Now we do not so much object to the conclusions arrived at, as we do to the unwholesome foundations from which the conclusions arise: for let the catamenial discharge be what it may, certainly a preternatural flux of blood from the uterus is uterine hæmorrhage. But instead of supposing, with the Professor, that "very few can now be found to

* Elements of Therapeutics and Materia Medica.

deny" that the "catamenia, instead of blood, are a peculiar fluid, the product of a secretory action of the uterus," we should rather expect to find but few at the present day, notwithstanding the very respectable authority of Professor Chapman, added to that of many others of different ages, who would have the hardihood entirely to decline the converse of the proposition, or assent with the Professor, to the complete exclusion of the possibility that the menstrual discharge is sanguineous. Literally, mænorrhagia signifies nothing more nor less than a monthly discharge or breaking out; and would be applicable, as well to monthly discharges from any other part, or of any other kind, as it would that of a monthly discharge of a sanguineous fluid from the uterus of human females, from the age of puberty to that of forty five or fifty. And certain it is, that the term "*menorrhagia*" has nothing in it which refers either to the quality or the location of the discharge—nothing that intimates a discharge of any kind from the uterus more than from any other part. It is therefore, as appropriately used to designate a monthly recurrence of bleeding, or any other discharge from the nose, a purulent or sanguineous, or any other eruption from the rectum, or any other part, or a leucorrhœal or purulent one from the uterus, &c. as the red monthly discharge from the uterus of the human female. But custom, which is and always has been but too much the arbiter of language, has, for no better reason, in our cognition, than that what we call menstrual discharge, is the only one which is generally, and with uniformity, *monthly* in its recurrence, established its meaning for centuries. Still, however, even this, we conceive, is no good reason why a correct nomenclature should not be adopted; for surely it were better to be correct late than never: or to use an old maxim, "it is never too late to do good." Let it therefore be understood, that our objection is not so much to the proposed nomenclature of Professor Chapman, as to the ground on which it appears to us to be made; or the purpose which, unobserved, it is calculated to effect in regard to the truth of an important point in physiology—a point which is of no little importance, not only in its relation to an abstract truth in human physiology, but also in its bearing on pathology—I mean the doctrine of the very able Professor, that the catamenial discharge is not a discharge of blood, but is a peculiar secretion. On this subject the Professor seems to have adopted the physiological opinions which were prevalent many years ago, and settled down in ease and contentment, without applying the energies of his own intellect to the examination of its physiological truth. We feel assured that were Professor C. to apply his reasoning powers to the investigation of the subject, with freedom from all partiality for opinions previously adopted and long cherished, he could not fail to arrive at very different results. We have no hesitation in affirming the proposition, in

the most unequivocal terms, without the least fear of the results of rational investigation, that the menstrual discharge *is truly a discharge of blood;* and is not, properly, a peculiar secretion; but is, when in the usual and healthy quantity, only modified by the secretions with which it comes in contact. The present occasion does not afford us an opportunity of engaging in a rational demonstration of the proof of the bold proposition, as it may seem to some, which we have just stated; but in passing, after the statement of it, which we thought necessary for arresting the progress of error, it may be allowable to notice a few observations from the best authorities of the past and present ages for the same opinion.

Hippocrates, the most respectable authority in ancient medicine, whose close observation has been constantly before the world in all ages, the *most worthy* example for imitation, and which has established so many truths which have withstood changing influences of time, and the revolutions of centuries, says, "*Procedit autum sanguis velut à victimâ, et cito coagulatur, si sana fuerit mulier.*" The most healthy animals were chosen for the ancient sacrifices; hence this comparison. He died 361 years before Christ.

Mauriceau, when Prevost of the Company of Master Surgeon Jurors of the City of Paris, in 1672, had and embraced the opportunity of examining the body of a woman who was hung for a crime, during the menstrual epoch. All that portion of the cavity of the uterus about the fundus, was plastered over with coagulated blood; and these vessels were much larger than those of the neck. He saw those coagula connected with those vessels about the fundus, which disgorged themselves of the blood.*

Madame Boivin, whose excellent and peculiar opportunities for investigating the truth on such subjects, we have before noticed, says, she has had occasion to see the uterus of many young females who died during the menstrual epoch, in whom the inter-

* "C'est ce que j'ai remarqué plusieurs fois, et fait observer devant plusieurs de mes Confreres, le 12 Janvier, 1672, ayant l'honneur pour lors d'éstre Prevost de la Celebre Compagnie des Maistres Chirurgiens Jurez de cette ville de Paris. Ce fut en la dissection d'une femme qui avait aussi esté penduë pour pareil crime, dans le temps qu'elle avoit actuellement ses menstruës, sur le cadavre de laquelle *M. Deveaux* le fils faisoit son chef-d'œuvre anatomique. On voyoit manifestement en cette femme, le contraire de ce que disent *Primrose au* 1. *livre des maladies des femmes, et Columbus au* 6. *liv. de son anat.*, car toute la cavité du fond de sa Matrice estoit enduite de petits gremeaux de sang caillé; et ses vaisseaux estoient beaucoup plus gros que ceux du col, et mesme, tout pleins de sang caillé, vers les orifices qui se dégorgent dans le fond de la Matrice." *Œuvre de Mauriceau. Traité des Maladies des Femmes Grosses, &c. P.* 47.

nal face of the uterus was "*couverte d'une couche de sang d'un rouge vif*," and this fluid she caused to pass out of the vessels which afforded it in small drops, by simple compression, or by plunging it into warm water.

With these facts and authorities then, without calling to our aid the fact, that the phenomena of the menstrual fluid are perfectly explicable without the idea of a peculiar *monthly* secretion we must be so far at issue with the learned Professor, as to set it down as a physiological truth, established, beyond the reach of fair controversy, that the menstrual discharge as it emanates from the vessels of the uterus, into its cavity, is verily, as pure blood as that which circulates in the general sanguiferous system—that immediately on being poured into the great tricorn cavity of the uterus, it comes in contact and is incorporated with the mucous secretion which lines and lubricates the mucous membrane of this cavity; and that, as it escapes through the fusiform canal or cavity of the cervix, into the vagina, it partakes still further of the other secretions with which it meets in its passage outward, which mucous and odorous secretions have the power of changing *a certain proportion* of such pure blood, in such a manner as to give it all the qualities fairly claimed for menstrual discharge. This blood is coagulable when it enters into the uterine cavity, and does coagulate in death, but not ordinary in life, at this part; nor does it, when in natural proportion to the mucus, any where in its passage, or afterwards; but whenever, from any cause, the sanguine flux exceeds the natural proportion to the mucus which the parts afford, whether by an increase of the flux of blood, or decrease of mucous secretion of the parts through which it passes, the discharge becomes more or less coagulable, in just ratio with the disproportion which exists. The difference then between the menstrual discharge and uterine hæmorrhage, is not that one is a peculiar secretion, and the other a discharge of pure blood; but that

1st. The former is pure blood mixed with a great proportion of mucus, whilst the latter is pure blood mixed with a small proportion of mucus.

2nd. The law of nature during health is, that the parts through which this monthly discharge of blood takes place, are supplied with a copious mucous secretion, and that, monthly, from some cause, a discharge of blood is gradually emitted from a certain order of vessels of the uterus, in a quantity not exceeding that which is capable of being rendered non-coagulable by the proportion of mucous discharge; whilst the latter, or what we call uterine hæmorrhage consists in a greater proportion of blood than the natural mucous secretion of the parts can render non-coagulable. The former, therefore, is a normal discharge of blood from the uterus, in obedience to a physiological law of the hu-

man female economy, and the latter an abnormal or morbid phenomon, in which this physiological law is transcended.

After this explanation of the physiology and pathology concerned in this nomenclature, we are perfectly willing, as we intimated at the onset, that the latter or abnormal phenomenon should be distinguished from the former, or healthy one, by a name, differing more essentially from that of the former, than menorrhagia does from menstruation—that uterine hæmorrhage be adopted as a cognomen for those discharges of blood from the uterus which are too great to be altered in quantities by the mucus of the parts through which they pass, in contradistinction to *menses* and *catamenia*, which are in universal use to mean those monthly discharges of blood which are thus altered in their passage outward.

Here we gladly leave this part of the lecture before us, on which we have expended much more time than we intended, and come to the consideration of the next topic for discussion.

This hæmorrhage may take place in the unimpregnated or impregnated state of the organ, and precede or succeed delivery. The latter is occasioned in a mode, namely, by a rupture of vessels, which removes it from my consideration, and will be resigned to the department of midwifery. To me it belongs to treat only of the former, as properly vital, or spontaneous hæmorrhage. This may recur monthly, with considerable exactness, or more irregularity, at shorter or longer intervals, or continue almost uninterruptedly. But the law of periodicity is observed by it with greater uniformity than by any of its kindred affections. p. 197.

In this paragraph we find a very proper distinction made between those uterine hæmorrhages which take place in the vacant, and those which occur in the pregnant state of the uterus. The latter, the Professor very correctly observes, are occasioned by the *rupture* of vessels, and assigns them to the obstetric department. The former, by way of distinction, he calls "*vital*, or spontaneous hæmorrhages," by which, we presume, he means that they occur in a manner consistent with the integrity of the vessels of the uterus. This is as it should be, and brings fairly under consideration a pathological inquiry of the greatest interest and of very frequent occurrence. It is highly interesting in its philosophy abstractly considered; but its interest is greatly enhanced by the fact, that its true philosophy alone can dictate correct and radical curative indications.

An attack of an active uterine hæmorrhage may be ushered in without any, or a very slight premonition, though generally by a train of precursory symptoms, lassitude and weariness of the limbs especially—sometimes chilliness, followed by fever, or, at least, by increased force or acceleration of pulse, headache, flushed face, embarrassed respiration, a sense of fulness in the uterus, pain, acute or dull, in the lumbar region, or groins, with sensations of dragging or bearing down, attended by a frequent desire to urinate, and occasionally by tenesmus. These phenomena are often connected with

much of that sort of feeling, expressed by the vague term nervousness. The discharge appearing, not a little relief is afforded, unless it be very profuse, when the antecedent suffering is exchanged for the wretchedness of exhaustion, sometimes with nausea and vomiting, coldness and shivering, disposition to syncope, &c. &c. p. 197.

In the paragraph just extracted, we have a very good account of the phenomena which accompany those uterine hæmorrhages which are not the result of rupture of vessels, as well as many of those which are; but these are given as symptoms of uterine hæmorrhage, as a primary disease. Here lies the great pathological error, to guard against which was our purpose in giving the time we have to the first paragraphs of this lecture. Radically wrong and injurious as it is to transpose cause and effect, when we come to the details of the practice founded on the reasoning process concerned in the pathology, but little is required to change the aspect of the present view to that which is right and salutary. We only need to add *hæmorrhage* to the list of symptoms or phenomena above adduced, as a mere phenomenon with the others, all combining to prove the existence of some derangement of the uterus and its vessels and nerves, and consider them as evincing the existence of such derangement as the primary disease whereof they are only the symptoms, and we shall be not only correct in truth, but will, with this truth established, be on fair ground for arriving at radical curative indications. *Symptoms*, and the morbid condition of the system, or of a part, which they indicate, are very different things. The crying error of the present age has been, to treat *symptoms alone*, instead of using them to determine the true pathology of the case, which should always include the whole previous part of the chain of cause and effect, on which alone, or rather without which, radical indications and radical treatment cannot be adopted; and if, under the neglect of this previous part of the train of phenomena, a cure is arrived at, which certainly is sometimes the case, this happy result is rather attributable to accident, or the unknown resources of nature, than to sound pathology which is founded only on good and true reasoning.

Now we are well aware of the fact, that those symptoms themselves do in many instances require treatment, and are removable, for a time, at least, by it; as the hæmorrhage under consideration, for example, without radical reasoning on the cause. The hæmorrhage, for instance, may be staunched for a time, and it should be, when necessary, by cold applications, by acetate of lead, by ergot, &c. &c. which have nothing to do with the cause of these symptoms, except to fulfil the latter part of the great, general indication: which is *to obviate* the effects of the cause. The same may be said of the pain attending many cases, &c. But the most important part of investigation is, to determine definitely what the causes are, and whether they are abid-

ing or have passed away. If the latter be the case, then they need no indication; the effects only requiring our curative efforts. But if the former, the great precept, *remove the cause*, lays the strongest claims to our consideration and efficient efforts. Here are we called on for those operations which alone may be depended on, not only for facilitating the relief of distressing symptoms or effects of the primary disease, but for giving permanence to the cure, and even for correcting those effects without other means and efforts directed to them individually; for unless there be disorganization, the morbid effects of noxious causes will generally cease when these causes are obviated. Proper research into the nature of their causes, will satisfy the close and unbiassed observer, that the symptoms above detailed are the effects of uterine displacement in a very large majority of cases. Certainly they may exist from other causes; but at least eighty or ninety per cent. of chronic uterine derangements, and a still greater proportion of uterine hæmorrhages, are the results or effects of uterine displacements in some way. This truth is not only consistent with the anatomy and physiology of the parts concerned, but is determined also by the fact that this (uterine displacement) will generally be found present in such cases, and its *causation* is fairly established by the cessation of the effects, in very exact proportion to the correction of this as a cause.

We rarely find a better description of the external symptoms of uterine displacement, than is detailed by Professor Chapman in his description of the phenomena attending uterine hæmorrhage; and should we take their pointings to satisfy us of the existence of this cause, and act on this view, we shall be favored with a degree of prompt, as well as permanent success to which we will otherwise remain strangers; and we shall find uterine hæmorrhage, instead of being that cause of alarm which it proves to many, a mere trifle, never calculated to alarm us as to its final consequences, provided its cause be promptly attended to.

In the next paragraph Professor C. gives us, as the most conspicuous remote cause of hæmorrhage from the vacant uterus, the period of life. If by this, he means what is commonly called the critical period of woman's life, the idea is very obscurely expressed, as will be seen by the following:

> Among the remote causes of uterine hæmorrhage, the most conspicuous is the period of life. It is seldom met with previously to the season of puberty —is very apt to occur slightly, in anticipation of the complete establishment of the menses—again, when they are about to cease, and, sometimes, very copiously. No period, however, between these extreme points, is exempt from attacks. p. 197.

It is no novelty that we learn when we are told that "it is seldom met with previously to the season of puberty," nor has our observation taught us that it "is *very* apt to occur slightly

in anticipation of the complete establishment of the menses." The remark is, however, true, that when the menses are about to cease, these uterine hæmorrhages are more common and severe; but its more frequent occurrence at this time is not so much attributable to "the period of life," abstractly, as a cause, as it is to that species of genital prolapse or displacement in the female, which is so much favored by the relaxation of the female genitals and their attachments, common in this period of life. The proof of this position is found in the treatment of those cases, in which relief is most certainly effected by the proper treatment of this prolapse, which, on examination, is found to exist; and from the existence and the neglect of which, and not from other causes, this period of life has obtained the character of being peculiarly critical. The seventh septenniad is, therefore, rather to be considered an age of peculiar *predisposition* to uterine hæmorrhage, by being a predisposing state to that prolapse which is its cause.

Predisposition to active uterine hæmorrhage is, according to Professor C. also found in the "sanguineous, florid, and robust; and to passive, in the enervated, relaxed, and phlegmatic."

The following particulars are next named as peculiarly determining blood to the uterus, and therefore promoting uterine hæmorrhage:—Habits of sitting, or luxurious indulgence, such employments and amusements as spinning, dancing, equitation, walking rapidly, excess of venery, or abstinence from it, when the desire is urgent, numerous labours, repeated abortions, leucorrhœa, constipation, frequent purging with articles operating mainly on the rectum and through it, on the uterus; certain emmenagogues, as undue use of warm bath, of foot-stoves, &c. In this enumeration we have an extensive assemblage of direct and indirect causes of hæmorrhage—that is, of some which operate directly in the production of hæmorrhage by determining blood to the uterus, and others which operate indirectly, by producing obstructions to the free circulation of blood in the various uterine vessels, through the intervention of prolapsus; amongst which latter, we will particularize dancing, especially under the use of corsets, riding on horseback, walking rapidly, excess of venery, all hard labors, and abortions. But we may add that, some of these things enumerated as causes of hæmorrhage, should be considered merely as concomitants of hæmorrhage—as effects of prolapse. Of these we particularize, most of the abortions, whether repeated or not. These, occurring from any cause, are very liable to produce uterine prolapse; whilst this is by far the most common cause of abortions.

We pass over the next paragraph, as referring to hæmorrhage from the uterus in consequence of cancer, fungi, &c. &c., which belong to another department. We next come, however, to a very correct observation of the lecturer, by the knowledge of

which we are surprised that the confidence of the Professor in his physiology was not impaired.

"No difficulty can exist in distinguishing the uterine from the other hæmorrhages. Menorrhagia is most apt to be confounded with it." Here we find things, made the same in the nomenclature, put in opposition. "An inspection of the discharge will, however, at once remove all doubts; it being in the one, pure coagulated blood, and in the other, a thin dark fluid of a peculiar odour. Between the blood, in some of the less active hemorrhages, and the menses, there is a close resemblance, and greater attention will be required in the discrimination."

We confess we are at a loss to know what is meant by the first clause of this quotation, unless it be to hint to us, what every man's common sense would teach him, or rather, the self-evident proposition, that hemorrhages from the uterus may be easily ascertained not to be from some other part, and that hemorrhages from some other part are not from the uterus. But in the latter part of this paragraph, we are told that between some of the less active hemorrhages, and the menses, the discrimination is not so easy. It is strange, we say, that on making this observation, the Professor did not perceive that instead of the non-coagulability of the discharge from the uterus being attributable to its being a peculiar secretion, that it was owing to its proportionate admixture with mucus; and more especially when he observed that, what *he* called uterine hemorrhage approached nearer to the character of menses, the less the proportion of blood to the mucus of the parts; as in those hemorrhages which are less active.

With the next paragraph, we fully accord, as our observation long since led us to the same conclusion: that is to say, little immediate danger is to be apprehended from active spontaneous hemorrhage—death, at least, rarely, or perhaps never suddenly ensuing from it; whilst much is to be apprehended in the ulterior consequences, &c.; but it is otherwise in the less active or passive states of the disease; the loss of blood being here sometimes most copious, and the effects truly alarming. The concluding sentence in this paragraph is, we suppose, the observation of every experienced and judicious physician: "Yet it would seem, that from no part of the body is excessive hemorrhage better borne than in the uterus, or the preservation of life more frequent, under, apparently, desperate circumstances."

"The rareness of a fatal termination in either state of this affection, has prevented the acquisition of any precise knowledge of its anatomical characters. No doubt, however, they are the same as in hemorrhages of other mucous surfaces."

Certainly, this is the case with regard to those hemorrhages from the uterus, which are without organic lesion or structural disorder: the only cases properly under consideration in this

place. But when the mind is set on investigation in one way, it is too apt to neglect all the other means of arriving at truth. Such appears to have been the case, to no small extent, with regard to the hemorrhages under consideration. A little more attention on the part of pathologists would have enabled them to arrive at clear views, by reasoning from effect to cause; a process which would have developed a truth of the first order, because it would have pointed directly to curative ends by the removal of cause. We do not, therefore, "confess the peculiar obscurity in which the pathology of the uterine hemorrhages (under consideration) are said to be involved." To us, as to Professor C "it is as plain as any of its affiliated affections," but the simplicity of the pathology of these cases is so indeed, when divested of the miserable error of "*secretion*," which we find constantly brought up to the great confusion of the pathologist and obscuration of the simple truth of nature. This we find abundantly the case in the following:

"Lined, as the uterus is, with a mucous membrane, why (says Professor C.) should it not be subject to hemorrhage?" Now we acknowledge ourselves of too obtuse intellect to see, in this fact of anatomical structure, the slighest shadow of reason, or means of accounting for the fact in question. If this were any reason why uterine hemorrhage should occur, we ask, why does not every man's nose bleed, and that excessively, and frequently, without the help of visceral obstructions: for this organ too, is lined with a mucous membrane, and blood, when discharged from it in a quantity, proportioned to the mucus secretion of the part, as the blood discharged in menstruation is to the mucus of the parts through which it has to pass, it is alike uncoagulable, and really needs nothing more than the set of glandulæ odoriforæ of the genital organs, to endow it with the peculiar odor of the discharge of females, called menses.

"But the chief difficulty complained of," says the Professor, "seems to relate to those cases where pure blood periodically escapes, instead of menses, or in which the two fluids are mixed." Here is, we acknowledge, the perplexity; and it arises, as we stated in the beginning of this notice, in the error of physiology, which has ever, like a will o' the wisp, haunted some of the profession, and decoyed them into quagmires and amongst brambles. We believe we have before explained the difference between blood and menses, in a way which removes all this perplexity, and which is, at the same time, so perfectly consistent with truth, that we defy any anatomist or physiologist to account for the phenomena of menstruation otherwise, except by a departure from anatomical truth, for the adoption of sheer hypothesis, which is never admissible in philosophy, when there is no reasonable impeachment of what appears to be a plain and rational demonstration of truth. But we will say again that the

menstrual discharge is blood and mucus, and uterine hemorrhage is blood and mucus; but in the former, the mucus bears such a proportion to the blood as to impair its coagulability; whilst in hemorrhage it is in too small a proportion to effect this end; and coagulability of the discharge exists. Again, there is a reason why, in regular menstruation, it is generally the case that the proportions of blood and mucus are such as to give the peculiarity of the discharge in this respect; and it is to be found far back in the original design of female construction, in view of the peculiar purpose of being the mother of mankind, for which she was designed. Here will be found, as definitely as the difference of her corporeal construction, a peculiarity in the rate of her repletion, for a certain period of her life, whereby a surplusage is provided. This is at the rate calculated to afford growth to the fœtus in utero, and to the new born infant until its organs are sufficiently developed to derive support from other means. This surplusage is, therefore, definite—always, in perfect health and nutrition, about the same, in the same individual; although not exactly so in different ones; but in none, in perfect health, in too great a proportion for the mucus with which it is to be incorporated in its passage outwardly. Now in this state of things, purely physiological, we have nothing to do, in order to have a hemorrhage, but so to increase the sanguineous discharge as to overrule the non-coagulating powers of the mucus of the part; nor is it important, except in relation to therapeutics, whether it is with or without disorganization. To talk then about a *secretory office, periodically* exercised, is perfectly Utopian. Would the learned Professor say, when the nose, the lungs, the rectum, or an ulcer performs the menstrual function, occasionally by a discharge of blood, or the tonsils, by a monthly enlargement, that these are secreting? If so, where is the structure? Where also is the cause of periodicity? It is always bad reasoning, when causes and facts are claimed, of the existence of which there is no evidence. Causes must be known to be present, and they must bear a proportionate relation to the effect produced, as the weights in different scales to produce or to destroy the balance. One error begets many, and these afterwards multiply and increase, in the progress of the reasoning process, as an error in the beginning of an arithmetical process. In addition, therefore, to the want of nature's truth in physiology, and the bearing of this on pathology and therapeutics, we find the distinction made by the Professor, and others of the same physiology, between *hemorrhage* and *menstruation*, leading to another hypothesis relative to anatomical structure, which would be as hard to demonstrate, as the vessels which were once supposed to transmit semen from the vagina to the ovaria, without its passing the route of the uterus; or the *sympathy* whereby the ova were believed to be impregnated, or the fallopian tubes

brought into action without the agency of the semen, nearer than the vagina, which, we think, would do as well to remain in the vesiculæ seminales. It is seriously asked, and the question referred to by Professor C. whether different sets of vessels are not engaged in these operations, (i. e.) hemorrhage and menstruation? Although the question was obliged to be answered correctly as to the anatomical fact, the doctrine of secretion, being lugged along with this truth, so cloggs it as to make it almost a falsehood, because the modus operandi of these vessels is necessarily erroneous. And this is the explanation of the fact, that the same vessels do both agencies—"The secretory vessels of a part may be so differently influeneed at the time, that while one portion of them is adequately performing its duty, another shall allow blood to pass through them, little or not at all affected."

The next topic discussed, is the local pathologieal condition of the uterus, which is found to be more or less engorged, and needing depletion. But surely the Professor will not contend that this is the case with general repletion. If not, from what is it we ask, but loeal derangement of cireulation from some cause? And under this circumstanee, how can the almost universal rule of general depletion in these cases, be a good one; and that to the exclusion of the correction of the eause? Certain it is, that topical congestion or engorgement, and sometimes actual inflammation does exist; and when this is the case, the indication is to correct this unwholesome effeet of the cause of this disease. And various are the medicinal means brought under review for this purpose in the sequel of this lecture, without once refering, at least, intelligibly, to the correction of the true eause—the vascular obstructions oecasioned by uterine displacements. Yet, it is said, "all is well that ends well," and this is applicable to some of the remedial means recommended for the correction or prevention of uterine hemorrhage: these are ehiefly the superior efficacy of the tampon in correcting hemorrhage; and of long confinement to a horizontal position, for euring or preventing its recurrence. But so clearly is the source of true causation overlooked, or hidden by the glare of false physiology, that after fairly advaneing the real fact, that such things are valuable, their modus operandi is referred to another direction, instead of that in which it is in truth found; and the tampon is declared to operate by causing coagula to form, and thus mechanically staunch the hemorrhage.

Various astringents and other medicinal powers are next arrayed in review, which are calculated to act on the disordered condition of the part concerned, by closing the patutous mouths of vessels, and correcting the engorged state of the uterus, under the pressure of its cause, which is left operating: and many of these are sometimes, though rarely, necessary; for it is not always the case that the effects of a cause cease to exist on its suspen-

sion. But if. in the onset, the real cause be corrected, then the most of these articles will be found left on our shelves. Yet as these are sometimes found necessary, and as the preference amongst them should be always at the command of the practitioner, we may take time briefly to refer to them.

In the first place the Professor holds it more or less desirable, that the hemorrhage should continue, for the purpose of correcting the topical engorgement which he finds existing, instead of venesection, which appears to be almost universally necessary. Digitalis, as recommended by Currie, Farriar and Drake, as a substitute for depletion. But Professor C. cautions against its use, except when the pulse is "without force or volume," and the hemorrhage not copious. The article of lead stands prominent in the rank of astringents; although the Professor's experience does not enable him to place the same implicit reliance on it as Heberden, Barton, and others; he even charges the accounts of these respectable gentlemen with exaggeration, relative to its efficacy. We regret to be compelled to differ with the Professor on this point in practice, but we have rarely, if ever, used this astringent, in cases in which the action of any astringent could be expected, without benefit more or less prompt and complete—our only motive for avoiding its use being, to avoid the internal use of a preparation of lead. This motive has inclined us to the use of alum, pulvis stypticus made of alum and kino, or alum or catechu, the ergot, &c.; all of which we have found as uniform in their efficacy as we could expect to find any medicines in their operation.

The topical applications usually resorted to, are given and approbated; but, says the Professor, "more, however, to be trusted than any of the means I have suggested, is plugging up the vagina, so as to allow a coagulum of blood to form; and the best substance for this purpose is sponge; though tow, flax, cotton, or even soft rag, may be substituted." We would not assert that coagulation of blood does not in some instances, alone, arrest uterine hemorrhage; but we have not found it alone to be generally depended on for arresting hemorrhage from the uterus, whether pregnant or not; and we have long since found it far more serviceable, and to be trusted to for certainty, to disregard those coagula, so far as it may be necessary for determining the position of the uterus, in view of, and effecting its adjustment, than to neglect this, and depend on coagula. These check hemorrhage momentarily; but as the cause is generally continuous, the hemorrhage is very apt to recur: and if it do not, the horrible affliction of displacement continues, and becomes a constant trouble to the patient, instead of being, as it should be, timely corrected. Now, the observation of Professor C. on the efficacy of the tampon is correct; and the reason of this efficacy is simply, that the tampon is nothing more nor less than a pessary of soft

material, by which the uterus is replaced and retained at its proper site, and its regular circulation established, to the prevention of those obstructions and engorgements which demand topical depletion for their relief, or terminate in some other of the horrible catalogue of uterine diseases, as permanent engorgement, ulceration, &c. &c. The sponge, we are aware, is a favorite tampon, or, as we should call it, prop, or pessary, because it is of easy introduction, easily cleansed, and effectual in retaining the uterus in its proper site, and may be generally applied by the patient herself; a consideration of no trivial importance; nor have we ever been able to find but one objection to its use, and that only obtains in those cases of uterine prolapse, in which the treatment is, not palliative, but intended for permanent cure; and this objection is its tendency to swell and distend on imbibing moisture. When it is remembered that the lateral dimensions of the vagina are of the utmost importance in the treatment of prolapse of the uterus, and that this organ cannot be expected to be retained in situ, without securing and preserving a certain narrowness of the vulvo-uterine canal, it cannot fail to be perceived, that any thing which tends constantly to swell laterally, and thereby widen the canal, must tend in the same degree to prevent the support which the uterus needs. Observation on this point, for more than twenty years, has led us to the use of some soft article not possessing the spring or elasticity of the sponge, but which, when wetted, is more easily compressible; and even in the use of such substance, we have twined it around with small pack thread, in such a manner as to prevent its lateral distension in the least; and at the same time preserve the permanence of their length, as a support to the uterus at its proper height. This gives and retains to these props an hour-glass or bilboquet shape, just suited to effect the pressure needed, and prevent all other. The sponge is, itself, a good material, if very fine, and sufficiently secured, by wrapping or stitching around, to prevent its lateral distension. It is only in this way that it should be used; for the very good reason, that otherwise it tends to dilate the vagina laterally.

After what we have said, there will be little use in repeatedly calling up instances of the erroneous application of improper physiology, and the doctrines of excitement to the therapeutic department of this disease. After starting wrong, these things must be. The physiological error at the begining, must extend its ramifications through the subsequent process, to a greater or less extent. It must make effects causes, and vice versa, and must make the symptoms of one thing, the symptoms of another, as well as effects of one cause the effects of another. We pass over, therefore, a train of phenomena arrayed in order as symptoms of uterine hemorrhage, which, instead of being a generation of events arising mainly out of this one, (hemorrhage,)

are collateral effects with it, and arise out of the same causation. We allude to various symptoms of impaired health, or "feeble, quick pulse, respiration hurried on the slightest exertion, skin damp and cold, pallid and sallow"—with œdema and other symptoms evinced in the lower extremities, pain in the lumbar region, sense of weariness in the back, &c. Now we do not mean to say that most if not all of these symptoms *may be* produced by hemorrhage; but that they *are generally*, only its accompaniments, and produced by the cause of the hemorrhage very often, without being accompanied therewith, and curable without any of the remedies properly directed to idiopathic hemorrhage. It is strange to us, that any man should be engaged, even for a few years, in the care of female health, without being familiar with the facts just stated.

The next class of remedies, in the treatment of what Professor C. calls inactive hemorrhage of the uterus is, that of emetics; because, as he says, "the practice is not without claims to originality." Of the emetics, ipecacuanha is his favorite. These remedies are given "to reinvest the uterus with the faculty of secretion, when suspended or perverted." This secretion must be a very curious thing: when it comes on, hemorrhage must cease, so must amenorrhœa of course, and fluor albus too. "It struck" the learned Professor, with great force, "that, by the *revulsion* of vomiting, distinct from the secondary effects of the process, the flow of blood might be checked, and that, in the interval of its recurrence, by occasional repetitions of the remedy, the uterus reinstated in its *secretory* functions."

Now, *this done*, who will say that the flooding can possibly continue? But "emetics", he was "aware, are among the most active and certain of the emmenagogues, by which I (he) mean, an immediate power to arouse the energies, or otherwise to reinvest the uterus with the faculty of secretion," &c. On this ground then, "having seen their salutary agency in this respect, &c. I (he) indulged the hope that, if in these cases they can revive a natural action, or rectify a depraved one, so they might be serviceable in the same way in hemorrhage;" Q. E. D. !

Certainly, emetic medicines in under doses, are not without their beneficial effects, occasionally in checking active hemorrhage, and removing the phlogosis of the part, when the cause is not abiding; but we have too often seen the very disease, the remedy for which the Professor finds in emetics, produced by these very powers, not to look for far more injury from their *propulsive*, than benefit from their *revulsive* power; whatever may have been the experience of the Paris and Dublin practitioners. (*Coffin* and *Osborne.*) But we will leave it for the present, to others, to determine the merits of the doctrine of *similia similibus curantur.*

We intended here to have closed this notice; but Professor C's. originality has gone a little further in the use of emeties; and that is, to continue them as preventive of recurrence, "or in other words, to effect a thorough cure," and "as to the applicability of the practice, he (Dr. Osborne), perceived no difference, whether the hemorrhage was decidedly active or the reverse, it being alike successful. Thus "the emetic (ipecac.) repeated once or twice, *never failed* to complete the cure." This is charming indeed!

Of the utility of cathartics in perfecting the permanence of the cure, we are next informed.

"Cathartics which act on the lower portion of the bowels, and indirectly on the uterus, have also been employed. The aloetic preparations are of this description, and among the very best of them are *hiera picra* and *elixir proprietatis*. These articles are designed to operate, not so much as evacuants, as by an impression on the vessels of the uterus, *supposed* to be promotive of the menstrual function" (secretion). "Governed" continues the Professor, "by the same prineipie, emmenagogues of a more decisive character have been directed," but of the merit of them he is "exceedingly distrustful."

It is well to contemplate in these suggestions—the use of hiepicra, elixer proprietatis, &c., some of the most powerful and successful emmenagogues we have at command, the contradictory extremes to which one may be led by the glare of false doctrine. *Secretion*, instead of vascular aetion without secretory proeess, forces to indications calculated precisely for the production of the very event, for the correction of which its use is suggested.

By reverting to a former part of this lecture, now under observation, the reader's memory will be refreshed with the singular fact, that. then, the lecturer introduced just such purgatives and emmenagogues, as aloes is believed to be, (that is, frequent purging with artieles operating mainly on the rectum, and through it, on the uterus; certain emmenagogues, &c.) as *causes* of uterine hemorrhage. Now we find them introduced to the reader as *curative* means—now they will produce *secretion* —not *hemorrhage;* now they will determine *secretory action* and not *blood* to the uterus.

If mercury cures salivation, or if belladonna produces, prevents, and cures scarlatina, then we admit that hiera picra, &c. are appropriate remedies for uterine hemorrhage, and that too, on the principle that *similia similibus curantur*.

Remarks on Cynanche Tonsillaris, and on its Treatment—By R. Gerardin, D. M. Cynanche Tonsillaris is at present treated of in works on surgery, as well as in those of medicine. It ought, therefore, to have been sufficiently studied to leave nothing new to say on the subject. In endeavoring to trace its double relation to medicine and surgery, I have been led to conclude that its imperfect treatment, during the stage in which it properly belongs to the other department, most frequently permits it to pass into the domain of the latter, by the formation of abscesses and indurations, requiring surgical aid. Some of the modern authors, and especially M. Andral, have made known the changes produced by inflammation, whether in the interfollicular cellular tissue, or in the parietes of the follicles themselves. But I know of none but M. Velpeau, who, in his Surgical Anatomy, distinguishes two kinds of inflammation of the tonsils; the one seated in the mucous membrane; the other in the interfollicular and sub-mucous cellular tissue.

The distinction of these two seats of tonsillary inflammation, is very important in a practical point of view, and should, therefore, lead us to regard them as distinct affections. I would call this one mucous or superficial tonsillitis,* and the other parenchymatous or deep seated tonsillitis.† The mere inspection of the throat will suffice to distinguish them. I need not, therefore, dwell on their diagnosis; it is sufficient that I have pointed out their difference, and proposed the necessity of designations founded on pathological anatomy. This distinction is indispensable in practice, for those means which may be successful in the treatment of the superficial form, increase the intensity of the deep seated. Is it not to the confusion of these forms that may be attributed the failure, in the hands of some, of remedies lauded by other practitioners? The local application of powdered alum, for example, so highly recommended, may be resorted to with advantage in mucous tonsillitis, especially when the inflammation is not disposed to extend, and when the tonsils are covered with white exudations; but in parenchymatous tonsillitis, attended with much inflammation and swelling of the tonsils, the use of alum has always, in my hands, increased the inflammation, and, consequently, the pain. Should we not criticise the various remedies proposed for tonsillitis? Is it not strange that an inflammatory affection, that may be seen and touched, should still be treated by indirect means? The ancients, at least, attacked the ranine and sublingual veins, doubtless inferring that relief might be most effectually obtained by approaching the seat of disease.

My attention having, for the last ten years, been directed to this point of pathology, and continually called to it in seminaries of both sexes, I feel it a duty to make known the prompt and immediate effects of scarifications made at the seat of inflammation. In every case, whether superficial or deep seated, I examine the pulse. If the patient's constitution, his age, or the immediate cause of the phlegmasia, impart to the general circulation much power, I abstract blood from the arm, and, a few moments afterwards, I scarify the inflamed parts; and it is rare that this has to be done more than twice. In the most intense parenchymatous forms, the disease has yielded to scarifications twice performed at intervals of twelve or twenty four hours. The congestion is instantly relieved, and the patient very soon acknowledges that he feels more comfortable. I regard poultices to the neck, fumigations, and pediluvia, as of doubtful benefit, and only allow their use when requested to do so.

The scarifications should be more or less deep, according to the nature of the case. If the inflammation be in the mucous membrane, I scarify slightly all the reddened region, even though it extend from the tonsils to the soft

* Esquinancie muqueuse ou superficielle.

† Esquinancie parenchymateuse ou profonde.

palate and uvula. If, on the contrary, the inflammation be parenchymatous, I penetrate more deeply into the tonsils, and scarify them freely. I continue the scarifications until the surface be masked by the blood, and complete them after this has been thrown off, as the operation is not painful, and the patient has then become reconciled to it. The number of scarifications, of course, cannot be specified, and must be proportioned to the extent of the disease, and to the flow of blood. In the deep seated tonsillitis, twelve or fifteen expectorations well charged with blood, indicate a sufficient local depletion. Under the influence of scarifications, resolution is prompt and invariable, and is usually obtained on the day following the operation. Some time afterwards, small white lines may be seen, produced by cicatrization.

With me, the scarifications constitute a general remedy, and the only exception to them is the difficulty of reaching the seat of the disease, when called in late, or when the intensity of the disease prevents the opening of the mouth. An author whom every practitioner likes to consult, Boyer, speaks of scarifications in this disease, but insists on them only in certain cases. It is surprising that he does not extend its use, after saying that "by scarifications the alarming symptoms are arrested, and the anxiety of the patient promptly relieved."

I scarify at whatever period of the disease I am called to see it. If suppuration has commenced, the lancet will give issue to the pus. If there be a tendency to gangrene, scarifications will prevent it, by diminishing the intensity of the inflammation, and by lessening the tension of the tissues; for scarifications produce two effects, they relieve constriction, and give issue to blood. By scarifications, hypertrophy of the tonsils is rendered impossible, and, when their use will become more general, the necessity to excise these glands will cease.

I also resort to scarifications in guttural and pharyngeal inflammations, and always with the most signal success. They are certainly preferable to cups applied to the neck. Moreover, by scarifications, we avoid the cicatrices left by leeches applied to the neck, a matter of some importance to females. It is to the refusal of a young lady to submit to the application of leeches to her neck, that M. Monge was compelled to resort to scarifications. This fine case, though long since published, does not appear to have led practitioners to follow his example. The application of leeches to the sub-maxillary regions is also injurious, by occasioning a sub-cutaneous congestion in the neighborhood of the diseased tonsil, and which increases as the leeching is repeated, without any benefit to the patient. Messrs. de la Berge and Monneret, authors of the *Compendium*, have named, in the article on *Amygdalite*, the distinguished practitioners who have, like myself, remarked the injurious effects of leeches to the neck in cases of tonsillitis. It is to be regretted that this practice should have become so common that the physician is rarely called in until the friends have made one or more applications of leeches.

According to M. Bouillaud, (*Gazette des Hopitaux, Avril*, 1838,) the inflammation of the tonsils may extend to the veins, and reach the heart, producing coagula and death. But although this disease is not always so serious, it is frequently allowed to pass from the acute to the chronic state; articulation is then impeded, the delicacy of hearing sometimes impaired, and the consequences are occasionally such as to incapacitate the patient for the bar or the pulpit, to suspend the musical studies of youthful talent, and to compel artists to retire, prematurely, from the lyric stage.

Besides, there is no region better adapted to scarifications than the interior of the mouth. By the rapid removal of congestion, effected by scarifications, the cure is promptly obtained in cases of tonsillitis, of guttural and pharyngeal inflammations, in phlegmonous affections of the palate, gums, &c. These regions are pervaded by no vessel, the puncture of which should

be apprehended, for it would require much violence, if not awkwardness, to endanger, as is feared by Professor Beclard, the internal carotid artery.

With regard to the instruments, I have but little to say. A lancet, whose blade may be partly wrapped with linen, is always at hand. Yet when the operation has to be performed on timid persons, on young females, or on children, the preparation of the lancet will, not unfrequently, occasion alarm difficult to overcome. In order to avoid this inconvenience, I requested M. Charriere to make a scarificator, concealed in the manner of a pencil in its case, and which could, therefore, be projected after its introduction into the mouth, without the knowledge of the patient.—*Journal des Connaissances Médico-Chirurgicales, No.* 5, 1838.

Effects of Tobacco on the Voice of Public Speakers. In the last number of this Journal we gave an extract from the Boston Medical and Surgical Journal, with some additional remarks and facts, on the same subject with the following communications. The subject is an important one, and highly worthy of the consideration of the profession. We are happy to find that it is now under discussion. As our object is useful truth in medicine, we give the following articles from the same source, in order that the reader may have materials, as far as they are furnished, for his own judgment on the subject. Meanwhile, we will state that, a few days past, we accidentally met with an intelligent medical gentleman of considerable experience in the profession, from the low country, who, on the suggestion of the subject, stated that a gentleman of the city in which he resided, had been a free indulger in the use of tobacco—that after becoming a pious man he abandoned it, perhaps from moral impressions relative to its use, and became, what is termed "an exhorter," to some extent. In the course of four or five years he found himself seriously injured in his vocal organs. The use of tobacco was resumed—not, that we understand, as a remedy. Subsequently to the re-adoption of its use, however, the symptoms of the throat complaint disappeared, and he has remained to the present time, now several years, exempt from all the distresses, privations, and threatenings of this hitherto intractable disease.

The claims of humanity are high; and in no instance more so than when preferred by the suffering clergy; but in all cases they are sufficient, to overrule, if necessary, the formalities of fashionable etiquette, or the unpleasantness of a remedy. These cannot, therefore, we conceive, be advanced in argument on the subject, which is indeed of vital importance, and one which should rest on statistical facts alone. We hope, therefore, that intelligent citizens generally, as well as physicians, will feel themselves duly impressed with the duty of reporting any fact which may be calculated to determine the true influence of tobacco in regard to the cases alluded to: and we hope further, that both physicians and patients will examine well the authentic facts

which have been, and may be, offered, and yield to the cause of truth as developed by facts alone.

To the Editor of the Boston Medical and Surgical Journal.

Sir—I find I am not alone in being surprised at the opinion expressed by Dr. Mauran, and apparently endorsed by yourself, of the necessity of tobacco for public speakers, to prevent the occurrence of the disease that has recently affected clergymen so extensively. I apprehend, my dear sir, that these opinions have been given upon few data, and without the reflection which is desirable for those whose views on this subject may have an extensive influence upon the habits of mankind.

If it is indeed true, that one qualification for preaching the gospel should be the practice of a most disgusting and vicious habit—the use of a narcotic which is second only to alcohol in its deleterious effects upon health and morals—then, indeed, a new era of knowledge has commenced. The facts that have been presented to me in a practice of more than thirty years lead me to very different conclusions. The first clergyman that consulted me, many years ago, for this difficulty, had arrived at the age of fifty when the disease commenced. He had used tobacco from his youth upwards; he used it then, and afterwards, and I believe continues to use it till this time. He left the desk long ago, in consequence of loss of voice.

Another clergyman, with talents of the first order, was obliged, at the age of thirty, to leave a people greatly devoted to him, in consequence of this affection of the voice. He was an inveterate chewer of tobacco, and I believe smoked the cigar also.

I am not confident what were the habits, in this particular, of the numerous patients who have applied to me for advice, or whose cases have come to my knowledge; but the impression is strong upon my mind that quite a large proportion used tobacco in some form. The effect of snuff upon the voice is proverbial, so much so that many are able to detect the habit by the voice alone.

The influence of tobacco upon health is certainly deleterious. There is no mistake in this matter. It deranges the nervous system, and diminishes the tone of the stomach, in innumerable instances. A narcotic of such power as tobacco, which cannot be used in the minutest quantity, by the uninitiated, without the most disagreeable and often dangerous effects, the habit of using which cannot be established without difficulty and great caution, and when established, cannot be abandoned without severe suffering, great prostration, loss of appetite, gastric sinking and distress, which shows how nearly allied are its effects to those of alcohol, should never be prescribed without great caution. Indeed, I have supposed that it was the most ready and common stepping stone to that use of spirituous liquor which leads to intemperance. Those who chew or smoke tobacco are rarely satisfied with water, or other insipid or tasteless drinks, else why should the bar-room and the grog-shop be the resort of the smoker? I would not insinuate that all who use tobacco are lovers of strong drink, nor proscribe alcohol or tobacco as remedies in some forms of disease; but I would be very cautious how I recommend either as preventives of disease. How many thousands have found an untimely grave by the use of brandy, wine, and other narcotics, used to guard against sickness, or as remedies for chronic diseases!

Fully believing that the tendency of the use of tobacco is to promote, rather than prevent, the disease in question, I could not forbear to state my views on this *one point*, and may, at a time of more leisure, give you more at large the results of my observation on this active and dangerous narcotic.

One word with respect to the disease. I have been led to suppose that the modern practice of preaching in *vestries*, and thickly crowded, close and warm rooms, and afterwards inhaling cold air while heated, had much to do

in producing the new disease. Vestries are of modern origin, as places of religious worship; the rooms are small and low, and when filled with people, the air becomes exceedingly bad. The speaker, elevated above the audience, and often near the wall above, inhales none but contaminated air, unfit for the lungs, and highly stimulating to the organs of speech. In such an atmosphere, tending to paralyze his efforts, he is obliged to redouble his exertions. How often do candles burn dim in such rooms; and how often, in spite of all effort, do both speaker and hearer become dull and languid! This effect is doubtless the consequence of the inhalation of an atmosphere rendered deleterious by the exhaustion of the principle which supports life. I believe the disease in question often arises from the frequent repetition of this cause, by a preacher whose health is not firm, and whose constitution is not vigorous. Yours, truly, S. B. WOODWARD.

April 15th, 1839.

To the Editor of the Boston Medical and Surgical Journal.

Sir,—I received this day, your valuable Journal, and noticed the communication upon the subject which forms the caption to this article; and not aspiring to be, as has been elsewhere said, the "apologist for the filthiest of all fashionable vices," must be permitted to enter a partial disclaimer to some of the sentiments advanced.

My "opinions" may "have been given upon few data, and without the reflection which is desirable for those whose views on this subject may have an extensive influence upon the habits of mankind;" but should the suggestions offered lead to just and profitable results, however their tendency, the ends of the writer will have been happily accomplished.

Little did I dream, my dear sir, when conversing with you incidentally at my office, on the subject of the throat affection of clergymen, and the use of the "noxious weed," that I was to be arraigned at the bar of public opinion for my remarks; but as the object was then, and is now, simply to elicit truth, I do not hesitate to "take the responsibility," and entrench myself behind such facts as are at hand, however imperfect may seem the catalogue, hoping that others will present theirs of an opposite character, that the legitimate inferences and deductions therefrom may be secured. For mere theory and cant I care not a straw; and therefore offer no reply to suggestions drawn from such sources; and I am happy that a gentleman has noticed your article so truly competent to discuss its merits or demerits upon facts alone.

As to what would, or would not, have been, had circumstances been thus, or so—whether we should have lived to the good old age of Methuselah upon a diet exclusively vegetable, or died, as we now do, at the very limited period of three or four score and ten, upon the mixed yankee diet of vegetable and animal food; or, what would be the probable consequences of rigid abstinence in all things from the commencement of time, or of habits such as our community now presents, I will not pretend to discuss, but shall be satisfied to examine things as they at present really exist, and discuss them solely upon their intrinsic merits, or, if you please, demerits. That errors prevailed, and do still prevail, it is not doubted, both in our eating and drinking, and the "wherewithal that we are clothed;" but that our health statistics and bills of mortality exhibit so marked and favourable a character, as might have been anticipated from the—I had almost said diarrhœa of matter which has been dispersed broad cast, as it were, over the community by our modern book-making and lecturing hygienists, *et id omne genus*, I doubt exceedingly. There is evidently a fault somewhere, which can only be detected and developed by attending rigidly to facts as they present, eschewing altogether speculative theory, unless based upon something more substantial and tangible than moonshine, mere moonshine.

What, then, are the prominent circumstances upon which the original conversation with you was predicated? Ist, That the disease in question is comparatively of recent origin. 2d, That it occurs, or has been developed only, or rather most frequently, among those who either in fact or by common courtesy the most strictly temperate in all things. 3d, That its pathology is but little known or appreciated, and therefore demands a more rigid and severe investigation, albeit the effort may cause to be suspected for lack of consistency a valuable public journal devoted to "the scientific preservation of health and cure of disease, or *seem* to conflict with the principles, or with our ultraists' Procrustean dogmas, of the prevailing reformation from indulgences hurtful or apparently unnecessary. Not that I would say or do aught to arrest the onward progress of a temperate temperance reform—believing, as I most sincerely do, that much, and it is hoped substantial good has been, and is being accomplished through its potent agency; but only endeavor to check the wholesale denunciation, *under all circumstances*, of peculiar articles, because, forsooth, they happen to belong to the same class, conventionally, with other known noxious agents. A fourth reason offered for my remarks, was, that the affection in question is not the result of occupation merely, or much, or loud, or long speaking, nor is it attributable to the noxious influences of a confined and vitiated atmosphere alone, judging from the well-known fact that the lawyer, *quo ad hoc* proverbially healthy, outtalks the divine immeasurably; frequently addressing a Jury *en haut voix*, some three, six, and even eight hours consecutively (the clergyman rarely more than an hour at one time, and that at intervals, and with a low and measured intonation), and in the vitiated, rum-and-tobacco atmosphere of a low, ill-ventilated, crowded court room, and this not merely once, twice or thrice a week, but daily, for weeks, aye months together, as not infrequently occurs with many of our popular advocates at the bar during protracted sittings of county and general courts.

But to recur to our first position, that the disease is of recent origin, and was therefore wholly unknown to, or unappreciated by the clergymen of olden time. True, the labors of the closet (clerical), then, were not infrequently, and I doubt not advantageously, connected, more or less, with that of the plough and the wood axe, and it cannot be denied were less severe than at present. But what, in other respects, were the then habits of the clergy? So far as tobacco is concerned—that is the present question—they almost to a man indulged in the use of "the weed," *ab libitum;* nor am I aware of the fact, notwithstanding their incessant professional exertions (their style of preaching being mostly of a hortatory character, very earnest and enthusiastic, and often accompanied for hours with a stentorian utterance), that their average early mortality, as a class, was greater than that in our own day and generation.

But to the facts. In this city, wherein I have been in constant professional practice for nearly a quarter of a century, and where, from the incessant changes of pastors (a habit, by the way, much to be deplored), the aggregate number has been not few, I have *never known personally*, or through my professional brethren, of a single case of *the* throat affection, so called, among those of "the order" who used tobacco habitually either by chewing or smoking! but, on the other hand, of several cases among those unaccustomed to it use, or, if you please, abuse. Now whether this is the happy result of the tobaccoo, or its "tap-room concomitants and tendencies," as suggested by your correspondent, Dr. Woodward, I confess myself wholly unable to say. I will in justice add, however, that in the cases to which we have alluded, so far as our observation extends, the habit has not formed the "stepping-stone to that use of spirituous liquor which leads to intemperance," nor have the individuals been found lingering about the "bar room and the grog shop;" all having even "been satisfied," as a beverage, with "drinks as insipid and tasteless as water, and also considered by the community in

which they live as respectable, and in all respects excellent, nay, worthy members of society!

Of Snuff, and its effects, alluded to by Dr. W., I conceive the altered voice to be purely mechanical, the reverberatory passages being actually blocked up by this vile species of vegetable plaster.

But permit me to recapitulate very briefly, for my remarks have already occupied more space than I had intended, a few of the circumstances which led to the suggestions hinted to you. Being in conversation, a year or two since, with two most eminent divines of the Harvard school, upon the subject in question, they (both semi-martyrs to the disease) were in turn suggesting the probable causes of the malady, such as close application, long and loud speaking with the head in the uplifted posture, confined, vitiated air, &c. &c., when I interrupted by sying, that there was evidently something wrong, or far from healthfulness, in the habits of the clergy of the present day; that the circumstances by them cited did not obtain as the exclusive causes of the disease, being amply refuted by the undeniable facts above alluded to in relation to the gentlemen of the bar and clergy of olden time; that the frequent recent occurrence of the disease among them could only be accounted for by the *difference in the habits of living* between the two professions, and those of their own order who were even exempted from its influences—further, that I had ever known an individual clergyman thus affected, who was in the habitual use of tobacco. I then inquired what had been their experience and observation in this respect, among their immediate friends; although their professional acquaintance was extensive, neither could recollect a single case of the affection where the individual was addicted to the, if you will, "vile practice."

About a year since, being most happily present at a very interesting "Wednesday-evenining Club meeting," in your city, with the celebrated Dr. Mussey, of tobacco lecturing memory, this subject was again under discussion (and very naturally so, for, from the delicious fumes of the Vuelta Abajo which ever and anon greeted the olfactories, I judged that every member must, or ought to have been, to be eligible, a smoker), my remarks, as above, were there repeated, but were most promply, though very courteously, met by Professor M with the statement that the most inveterate case of the disease ever prescribed for by him, was in a gentleman, I think of Brunswick, largely addicted to the use of tobacco. The inquiry then was, what other cases of a similar character do you recollect? And my impression now is that he did, or could, not name one in particular, but thought, as does your correspondent, that there were many such. Dr. Mussey, to whom, as a ready writer, the medical public is much indebted, was very urgently requested, as he had already posted up the subject largely, and, as I conceive, very happily and justly thus far, to give the hint expressed a second thought, and say somethings about it to the public ear. Having never heard from him, either directly or indirectly which is exceedingly to be regretted, the subject being vital in its consequences, he will pardon me for supposing him to have yielded a tacit assent to the statement expressed, viz., that "the throat affection," strictly so called, and understood by the faculty, does not, as a general remark, develope itself in the habitually tobacco-using subject—that is, by chewing and smoking. To the use of snuff my observations have never been extended, the practice of "snuffiing" being too apparently injurious from its general stupefying effects upon the system, and mechanical effects upon the voice, ever to be tolerated in a public speaker.

But granting that tobacco is a preventive, will it also act as a curative? Of this, I must confess I have doubts, and such, (knowing the vile and captivating nature of the habit) as have ever precluded its prescription therefor in my practice. Indeed, I am fully convinced, (as is, or ought to be, every medical man of experience) of its noxious tendencies in certain habits, and have many a time most advantageously *pros*cribed its use, as I do inva-

riably to the healthy man, that of every species of narcotics and stimulants in general vogue.

Now, my dear sir, as I rejoice in having all mooted questions of importance rigidly tested, I am truly happy that this has been bruited; and if my notions are wrong, which, being a decided, though not ultra, temperance man in all things, I truly hope may so prove to be, no one will sooner yield than myself a hearty assent to the conviction; but if, through rigid investigation, it shall be found that the investing membranes of the vocal organs call for some peculiar stimulus to exalt their secretions, and give a more healthy tone to the function, and that tobacco is that agent, let us know the fact, maugre all expressions of "disgusting and vicious habit," "narcotic indulgencies," "new era of knowledge," tendency to swell the number of inmates of the "tap room," &c. &c.

Your correspondent, after reading a homily in which I, nay all, fully coincide, "that thousands have found an untimely grave through the use of brandy, wine, and other narcotics, used to guard against sickness, &c." attaches a universally like agency to the cigar, finding fault with a recommendation of tobacco as a *preventive*, notwithstanding the old adage, that an ounce is worth a pound of cure, but admits that he "does not hesitate to prescribe it as a *remedy* in some forms of disease." Now I would as soon *prevent* as *cure* disease, especially such an one as this, an opprobrium medicorum, which annually numbers its scores of victims, thus depriving the communiiy of their highest and most enobling teachings, could it be effected by so *morally* harmless a remedy as tobacco.

Although, peradventure, I do, with the ultraist or the honestly sensitive, subject myself, through these remarks and confessions, to the imputation of

> "Compounding for sins one is inclined to,
> By damning those we have no mind to,"

still I am constrained to offer this "testimony" of my individual observations and experience, submitting with pleasure to whatever judgment their investigation in the premises may declare, respectfully subscribing myself.

Your servant, &c. J. MAURAN.

Providence, April 26, 1839.

Occasional existence of Animalculæ in the Human Blood. The occasional existence of animalculæ in the human blood has been admitted, for a long time, by some of the best authorities in physiology.

Brera and Treutler were the first to discover and announce the presence of the *polistoma* (one species of these entozoa) in venous blood. M. delle Chiaje, who has long devoted himself to microscopic researches on this subject, has confirmed the accuracy of these gentlemen's statements, and he has also minutely prosecuted his enquiries respecting the physical characters of the animalculæ, and the mode of their generation.

He is inclined to regard the *polistoma* as a result or product of a pathological condition, and, therefore, of a spontaneous developement or generation —as well indeed as all other *entozoa*. The morbid products, he says, may become organized and live at first at the expense of the tissue, in which they arise; they may then detach themselves from these, and in this state enjoy an independent existence—as for example the *Alcephalocysts* or *Hydatids*. The most simple *Acephalocysts*, (those of which the animal character was so long called in question,) are now admitted to be genuine animalculæ, provided with a head, and also with special suckers, according to the researches of M. della Chiaje.

With respect to the *Polistoma*, M. Chiaje informs us that he has discovered worms of this genus in two classes only hitherto. Both patients were laboring under phthisical disease.

In one, the blood rejected during the first attack of hæmoptysis, exhibited half an hour afterwards, several small flat worms, somewhat similar to minute leeches, and either floating in the serum, or adhering to the sides of the vessel—which had been perfectly clean, before the blood was received into it.

The two physicians in attendance showed them to M. delle Chiaje, who at once recognized them to be the *Polistoma Sanguinea*. He examined them minutely with the aid of a microscope, and quite satisfied himself of their real character. The same phenomena were observable in the subsequent hæmoptoic attacks of this patient.

The second case was very similar to the one now mentioned. A young man was laboring under hæmoptysis; the rejected blood, on several occasions, presented a considerable number of these worms to sight.

M. Chiaje alludes to the case detailed by Mr. Bushman, of Dumfries, and recorded in the number of the "Medico Chirurgical Review," for January, 1834. It may be interesting to reproduce a brief account of this case here.

The patient, a young boy, was laboring under *influenza*, for which he was bled. In the blood, after it had remained at rest for an hour, Mr. B. discovered numerous worms, some floating in the serum, and others imbedded in the crassamentum.

Mr. Rhine, of Edinburg, an able naturalists, drew up an accurate report of these animalculæ. They were from one half to two thirds of an inch long; they consisted of an articulated body, a head with rudiments of antennæ and palpi, and a tail terminating in two tubular bodies or stigmata. The colour of the animals was bright red. In structure, color, and size they correspond, says Mr. Rhine, exactly to the larvæ of the *Tipula olaracea* fly, which in summer is so abundantly found in ditch and river water.

Various other causes are also mentioned. Thus Notorianni has informed us that he discovered thirteen worms of the genus *Polistoma* in one of the sinuses of the aorta; and Borelli, Redi, Vallisneri, and Lucarelli have recorded similar instances.

M. Chiaje has extended his enquiries to the blood of the lower animals; and he has discovered that animalculæ are often present in the circulating fluids, not only in the higher Vertebrata, but also of many of the Invertebrata. Thus, in the blood of several Sepiæ and also of the Sea-mouse, he has succeeded in detecting occasionally a species of round or ovular animalcule. The mesenteric vessels of the *Rana pipa*, and the cranial veins of the porpoise have been found to contain worms similar to the *Polistoma*. We also know that the aneurismal sacs of the meseraic blood vessels in the horse frequently contain the *Strongylus Armatus;* and that M. Andral has met with *Acephalocysts* in the pulmonary veins of man.—(*Clinique Medic. t.* iii.) *Annali Universali di Medicina.* Med. Chi. Rev.

Remarks on Constitutional Hæmorrhages with cases. Use of the Sulphate of Soda as an Internal Remedy. Case 1. A man, twenty-four years of age, was admitted into the Hôtel Dieu, in consequence of a false aneurismatic swelling in the palm of the right-hand, which, having been mistaken for an abscess, had been opened. This man had been subject, since his boyhood, to frequent recurrence of Epistaxis, and to very profuse bleedings from any accidental wounds.

His life had once been seriously endangered by the hæmorrhage from some leech bites on one of his knees. The swelling of the hand had come from a violent strain, which, he (the patient) said had dislocated his thumb-joint at the time. The surgeon, who first saw it mistook it for an abscess, in

consequence of the absence of all pulsation and from the distinct sense of fluctuation, which was perceptible in it. The hæmorrhage had been very abundant, and could not be restrained by pressure on the radial and ulnar arteries, but only by firm pressure on the wound itself. Whenever the compresses were removed, it returned; and M. Roux, therefore, determieed at once to tie the arteries of the fore-arm. The radial one was first secured; and, as the bleeding still continued, the ulnar also was tied. The hæmorrhage seemed to be arrested for the time; but, in less than an hour, all the bandages were found soaked with blood, which had oozed not only from the palm of the hand, but also from the two incisions in the fore-arm, which had been made during the operations. Suspecting that the blood might continue to flow through the interrosseous arteries, the dresser applied a tourniquet above the elbow-joint; but even this failed, and the patient died in the course of the evening.

The dissection was performed with great care. Almost all the viscera of the three great cavities were pale and exsanguine; some fluid blood was found in the right, but none in the left, cavities of the heart. The blood vessels of the affected limb were minutely injected; but irregularity, either as to distribution or visible formation of their branches, were anywhere discoverable. The radial and ulnar arteries had been fairly tied; there were, however, no traces of any coagulum either above or below the seats of the ligatures. The deep palmer arterial arch was *intact*—(in other words, was not involved in the aneurismatic tumor). The anastomosing branch, which passes between the superficial and deep arches, appeared to be the only one which was lost in the aneurismatic sac. The soft parts surrounding and forming this sac were reduced to a state of a blackish *bouillie*, in which no distinction of tissues could be discovered.

The reporter of the preceding case is inclined to attribute the diseased action,—which, we may suppose, gave rise to the very remarkable disposition to hæmorrhage,—rather to an extreme fluidity of the blood itself, than to any change of structure in the blood-vessels, or in any other of the solid parts.—That the blood was, indeed, remarkably fluid, and uncoagulable, cannot be disputed; but as to the cause of this change we are quite in the dark.

Case. 2. A man, forty-one years of age, who had frequently suffered from profuse *epistaxis* and *hæmaturia*, and also from rheumatic pains, accidentally struck his side against the edge of a door: the consequences of this was an enormous ecchymosed swelling, accompanied with extreme general languor and tendency to syncope.

On a former occasion, the mere pressure of another person's arm on the patient's elbow had caused a most extensive extravasation of blood from that part up to the shoulder.

It is worthy of notice that two uncles of this man had died, when young, from accidental hæmorrhages; one of them from the bleeding after the extraction of a tooth.

His only sister too died in her infancy from a hæmorrhage from the vulva; and his two brothers, after having been subject for many years to violent epistaxis, perished; the one in consequence of a blow on the head, which had caused an enormous sanguineous infiltration of the scalp, and the other from secondary hæmorrhage after ligature of the crural artery, rendered necessary by the profuse bleeding from an accidental wound in the calf of the leg. (*Revue Medicale*, October, 1835)

The *Hæmorrhagic Diathesis*, or *Constitution* seems to have been very remarkable in this family.

Case. 3. In the number of the *Archives Generales* for October 1833, there is the detailed history of a case of hæmorrhagic diathesis, in which, as in the preceeding one, the patient, a youny boy, was afflicted at the same time with rheumatic pains. Dr. Hugues had made diligent enquiry as to the health of the other members of his family, and had learned the following par-

ticulars. All the *males* were subject to occasional spitting and vomiting of blood; also to hæmaturia, expistaxis, and to troublesome hæmorrhage from any part, which chanced to be wounded. All of them suffered from troublesome rheumatic pains, whenever they were affected with any form of hæmorrhage. Several had died in their youth; and in those who survived to more mature years the hæmorrhagic disposition seemed to become less decided. It had been frequently remarked that, if any of them chanced to be blistered, the discharge from the vesicated surface was generally bloody.

Several of the *females* of this family, although they have exhibited the hemorrhagic diathesis in their own case, had transmitted it, *sans exception!* to their offspring.

If the preceding observations are quite accurate and to be depended upon, they present a very remarkable instance of a peculiarity of constitution in the *male* of a family, while the *females* were exempt from it. The co-existence of the hemorrhagic attacks and of rheumatic pains,—the former always preceding the latter—deserves also to be noticed.

In the Archives for July 1835, we find some particulars of a family, the *males* of which exhibited a similar disposition to troublesome hemorrhages. One, a boy nine years of age, perished from excessive bleeding after the application of cupping-glasses to the knee; another, three years younger, died from a wound on one of his temples from which there had been a most profuse hemorrhage; a third, thirteen years of age, nearly lost his life from the obstinate bleeding from leech bites upon his shoulder.

Two of the children had long suffered from rheumatic pains.

Case 4. A man forty years of age, and of a soft lymphatic constitution, was subject to most troublesome hemorrhage from very slight wounds. On two occasions the bleeding after the extraction of a tooth had required, for its arrest, continued compression for several days. At another time it was necessary to use the actual cautery to stop the bleeding from leech-bites; and the same means were, on one occasion, requisite to stop the bleeding from a simple wound of a finger. Several times large ecchymoses had formed after very slight bruises.

It was for a swelling of this sort on the inner side of the thigh, that he had consulted M. Marjolin. This eminent surgeon was inclined to attribute the singular tendency to hemorrhage, which existed in such a case as the present, rather to an atony of the capillary vessels, than to any marked fluidity of the blood itself, although he was not disposed to deny some influence to this latter cause.

It deserves to be noticed, in reference to this subject, that wounds of the larger blood-vessels, such as that made in venesection, are usually found to heal as readily in *hemorrhagic* individuals as in any other set of patients.—This, however, is not always the case. Dr. Otto of Philadelphia, has recorded the history of a woman, *all of whose sons* had a remarkable tendency to troublesome hemorrhages from the slightest wounds. One, if not two, of these sons died in consequence of the loss of blood from ordinary venesection. A curious circumstance is mentioned of the extraordinary power of the *sulphate of soda* in arresting hemorrhage from some of these persons. It was found that if this salt were taken, for several days successively, in doses large enough to purge the bowels, the bleeding ceased, and the wound speedily began to cicatrise. (See note at the end of this article.)

Krimer also alludes to the efficacy of this remedy in such cases. He alludes particularly to the history of one family, of which all the *male descendants for four generations*, had been most strikingly subject to hæmorrhagic accidents.

M. Sauson in his Concours thesis for 1836, mentions the case of a man, who died from a urethral hæmorrhage; six of his children had perished from the bleeding from casual wounds.

Blagden has given us the particulars of a man, who nearly perished from hæmorrhage after the extraction of a tooth: it was not completely checked for nearly three weeks.

This patient subsequently had an alarming hæmorrhage from a trifling wound of the scalp; and on a future occasion, the bleeding which followed the extraction of a tooth proved so obstinate as to require the ligature of the carotid artery, before it was arrested! The particulars of this case are reported in Samuel Cooper's "Dictionary of Surgery."

Including these remarks on Constitutional hæmorrhage, we may once more state that the cause of this most serious condition may be either an atony of contractility in the minute blood vessels of the part, or a dissolved and unusually thin state of the blood itself, which is thus but little disposed to coagulation. Probably both of these agencies are present in most cases.—(See the following note.)

Finally, in the treatment of such cases, the use of internal astringents has, perhaps, been hitherto too much neglected. The use of the preparations of lead and of some other mineral astringents may probably contribute very materially to promote the utility of local styptic applications. We have found it stated in the report of one of the preceding cases that the administration of large doses of sulphate of soda had a marked effect in arresting the hæmorrhage. Was this owing at all to the rapid discharge of serum by copious watery stools?

When we have reason to suspect any scorbutic tendency in the patient's constitution, the use of lemon-juice and of other vegetable and mineral acids, should, as a matter of course, be adopted.—*Archives Generales.*

Note—The efficacy of sulph. of soda, in these cases, as proved by Dr. Otto, is a very important fact in a pathological point of view. It seems to us calculated to confirm the truth of two propositions, which, by the habit of exclusive and practical views, greatly to be complained of in the present age, appear to be arranged in opposition to each other—that is to say, when we consider the physiological action of salines, this fact confirms the truths that, *not* to a marked fluidity of the blood, *nor* an atony of the capillaries alone, may these hemorrhages be attributed; but, to both of these causes. Thus is the truth of Dr. Steven's saline doctrine proved, so far as this one fact will go; and the opinion of *M. Marjolin's* opinion of atony of the capillaries. M. Marjolin is, however, "not disposed to deny some influence to the humoral doctrine in these cases." There is no greater or more general error in medical reasoning, than the omission of some of the causes of the phenomena. This has been the great error, at the starting point, of both humoralists and solidists.—*Ed,*

Vicarious Menstruation. A very interesting case of this kind occurred recently in Sir P. Dunn's Hospital, Dublin, under the observations of Dr. Law. The following notice of it is given in the *Edinburg Medical and Surgical Journal.* This case, with the cases of constitutional hemorrhage above given, demonstrate plainly, we think, the great importance of attending with much care, to the state of the great circulating fluid, and of regarding it as a proper subject of consideration in patho-

logy, which has, during the present age, been too much neglected.

"Mary Murphy, aged 21, had been in bad health and subject to distressing headaches previous to her admission into hospital. During her stay she missed a menstrual period, and was shortly after attacked with hemorrhage from both ears, which was repeated at intervals of from three to five nights, each lasting some hours. Very often from fifteen to twenty ounces of blood were collected, which did not coagulate, neither did blood taken from the arm. By suitable treatment the system was strengthened, and the intervals between the bleedings increased, but the discharge, though thus modified, still persisted, and she left the hospital. After her departure she was attacked with vomiting of blood, to a certain extent, superseding the evacuation from the ears, which only occurred once or twice a month. She returned to the hospital in consequence of this new symptom, and continued in the same state for some time, with some effort at menstruation; but at last the sanguineous discharge was supplanted by severe diarrhœa, which, having relieved the other complaints, was itself cured by opium. The quantity of blood lost must have been enormous, and it is not a little remarkable, that none of the *sequelæ* of severe hemorrhage occurred."—*Med. Lib. and Eclec. Jour.*

On the Radical Cure of Hernia by Acupuncturation. M. Bonnet, one of the surgeons of the Hôtel Dieu at Lyons, has contributed a very valuable paper to the Gazette Medicale on the above subject. He has been prosecuting his enquiries for several years past, and in that time he has met with so many cases, which fully warrant him in recommending the practice alluded to, that he is now anxious to communicate his experience to the profession at large.

The method, which he employs, is to insert several needless near to the inguinal aperture and fairly through the hernary envelopes, and then, after arranging them so that the opposite parietes of the sac are brought and kept in contact, to leave them in this situation until adhesive inflammation has been established.

Before detailing particular cases to illustrate the effects of this practice, M. Bonnet alludes to several applications of this form of acupuncturation in surgery. MM. Velpeau and Caron du Villards have, for example, used it for the purpose of inducing obliteration of arteries; M. Duvat in the treatment of varicose veins, and several other surgeons in cases of hydrocele, of encysted watery tumors, and nævi, or aneurisms by anastomosis.

But it is unnecessary to do more than simply to call the attention of our readers to these particulars, without entering upon any of their details. The object in all these cases is to excite the effusion of lymph, and thus to induce an agglutination of parts previously apart.

The method, which M. Bonnet adopts in the treatment of herniæ, is as follows.

Having reduced the protruded bowel, he lays hold of the sac close up to the ring, keeping the spermatic cord fairly and firmly to the outside of the fore-finger and thumb of his left hand: he then passes a long needle quite through the entire thickness of the part, guarding the head and point of the instrument, when it is fairly through, with pieces of cork, so as to prevent its displacement. Sometimes he twists or curves the two ends of the needle as a further security against its slipping out.

He afterwards passes several other needles, with similar precautions, on the inside of this one; and sometimes also one or two on the outside of the spermatic cord. The number of needles that he employs is from six to eight. It is well to pass a thread through one of the pieces of cork affixed

to each needle, for the purpose of aiding its withdrawal, in case it be imbedded in the swollen part.

The needles are to be withdrawn on from the sixth to the twelfth day; and then a poultice or a compress, wetted with some spirituous wash, should be applied. As soon as the tenderness of the part abates, a compressive bandage is to be used.

The following is the catalogue of cases treated in this manner by M. Bonnet.

Case I. A man 66 years of age, had been afflicted with an inguinal hernia on the right side for seven years. The inguinal canal was so wide that two fingers might readily be passed along it; and hence the protruded mass was as large and bulky, as two fists when closed together.

Six needles were introduced in two rows, one above or nearer to the inguinal apperture than the other.

The inflammatory action in old people being tardy, the first needle was not removed till the eighth day after insertion; a second on the thirteenth, and the rest on the following two days. The patient kept his bed for ten days: after this time he rose; and it was then found that the cough, which always caused the rupture to descend quickly before the operation, had no effect upon it.

A fortnight later he was dismissed, apparently cured, but wearing a truss.

It seems, however, that the old man's cough continued afterwards to be as troublesome as ever, and that, in consequence of the continual succussion thus kept up, the rupture came down again three months after he left the hospital

Remarks. It is to be noticed that everything was unfavorable to a cure in this case—the age of the patient, the size of the hernia, and the constant cough.

Case 2. An idiot, 45 years of age, had been ruptured for twelve years in the left groin, when M. Bonnet saw him. He would not wear a truss; so that every now and then the hernia became exceedingly large, descending as low as the middle of the thigh, very painful, and almost irreducible; the inguinal aperture was so wide that three closed fingers might be passed through it.

Nine needles were introduced, four in one row, and five in the other.

For the first six days, there was but little pain or irritation. After this period, however, the sac began to swell, and a blush of redness surrounded the seat of the punctures.

By the twelfth day, the punctures were found to be ulcerated; the needles, therefore, were withdrawn on this and on the following day.

On the 17th day, the herniary sac was felt to be empty; but the inguinal aperture was still perceptible, although it was much less open than before.

Unfortunately, at this period, an attack of erysipelas came on, accompanied with a troublesome cough. The result of this was the renewal of the herniary protrusion.

3. The following case was more successful.

A locksmith, 35 years of age, had been afflicted with an inguinal rupture for 13 years: it was as large as the closed fist. M. Bonnet passed four needles through the sac, as near to the ring as possible. For the first four days, the patient experienced but little inconvenience; but then the seat of the punctures became red and painful; and by the sixth day the punctures were more or less deeply ulcerated. The needles were removed on the following day.

When the tenderness, &c. had subsided, the patient renewed the use of a truss; but every now and then he laid it aside: yet it was found that even when a fit of coughing came on, there was no return of herniary swelling. M. Bonnet saw him at various intervals during the next twelve months, and

satisfied himself repeatedly that the inguinal aperture had become nearly, if not quite, impervious.

The *fourth* case occurred in a young man, 24 years of age: the hernia was not larger than a hen's egg, and it did not protrude, except after exertion or coughing. He had been recommended to wear a truss, but finding the use of it to be very inconvenient while engaged at work, he had laid it aside.

This therefore was a favourable case; and the result of the acupuncturation corresponded with the hopes of M. Bonnet. Three needles only were introduced: on the eighth day they were withdrawn. He remained in the hospital for another fortnight, and was then discharged.

M. Bonnet saw him repeatedly during the next fifteen months, and satisfied himself of the permanence of the cure.

In the *fifth* case, the hernia was of seven year's standing: the patient was 23 years of age, and the tumor was as large as the fist. Five needles were passed: they were removed on the seventh and eighth days.

It is only necessary to add, that there was never any threatening of the protrusion afterwards. The patient however continued the use of a truss, every now and then, with the view of consolidating the cure.

M. Bonnet alludes to two or three other cases, and also to an instance of umbilical rupture in a dog cured by his method; but our space prevents us from giving their details. It is important however to add, that he has had two opportunities of examining the state of the parts after the operation—in one case 21 days after the withdrawal of the needles; and, in the other, a year and a half after the date of the operation.

In the first of these examples, the patient died from an apparently aggravated form of suppurative or rheumatic fever. A large abscess in the psoas muscle was found on the dissection, and several of the abdominal viscera exhibited marks of the disease.

The subcutaneous cellular substance at the seat of the acupuncturation was thickened and infiltrated. The fibrous membrane enveloping the herniary sac, and, continuous with the aponeurosis of the *obliquus externus* muscle, did not exhibit any appearance of change. One only of the five needles had passed fairly through this envelope; the other four *avaient passé en dehors de sa cavité*.

On slitting open the peritoneal sac, its anterior and posterior surfaces did not adhere, except at one point only, where a fibrous column, two lines in length and as thick as a writing-quill connected these surfaces together; thus dividing the peritoneal sac into an inner and an outer canal.

Remark. The unsuccessful issue of the preceding case was unquestionably attributable to the visceral and other disease, which was existing at the date of the operation; It cannot therefore be fairly deemed as urging against the propriety of the practice.

The other case, in which M. Bonnet had an opportunity of examining the state of the herniary tumor after the operation by dissection, occurred in an idiot 40 years of age. He had been affected with rupture from his infancy. The tumor was so large that it hung down to the middle of the thigh, and the inguinal canal was wide enough to allow the passage of four closed fingers.

M. Bonnet passed eight needles; but there was great difficulty experienced in retaining them in their situation. Considerable swelling and tenderness of the sac supervened, and a considerable effusion of fluid into its cavity took place. This however subsided by rest and the use of discutient applications By the end of the fourth week, the patient was permitted to rise from bed; and it was found that even on coughing the herniary tumour did not protrude. It seems however that, two or three months after his discharge from the hospital, the rupture re-appeared. He returned to the hospital about a twelvemonth afterwards, in consequence of a thoracic affection, which ultimately proved fatal.

On the dissection of the herniary tumor, M. Bonnet found three small fibrous cords, each of about the size of a writing-quill, which bound closely together the peritoneal sac and its outer fibrous envelope.

M. Bonnet supposes that there were similar connecting cords, connecting the anterior, and posterior surfaces of the sac itself, and that these were probably ruptured, when the bowels protruded two or three months after the operation.

It is worthy of notice that, before dissecting the parts, M. Bonnet passed eight needles through the neck of the herniary sac, in order to ascertain what immediate effects were produced by the operation. It was found on examination, that *three only had traversed the sac.* There is therefore, it would seem, considerable uncertainly attending the use of acupuncturation, as described above.--*Gazette Medicale.*

Amaurosis. A late number of the Gazette Medicale de Paris, contains some interesting cases and observations on this distressing affection, by M. Petrequin, of the Hôtel Dieu of Lyons, who has established an opthalmic *clinique* in that institution. Did our limits permit we would gladly lay before the profession, the cases and remarks of M. Petrequin entire, as they furnish rational views and successful treatment of a disease, which has long been one of the *opprobria medicorum.* We must content ourselves, for the present, with a brief synopsis.

M. Petrequin objects to a uniform treatment of amaurosis, as all cases are not identical, and the disease is most frequently found complicated with anemia, sanguine congestions, chronic sub inflammation of the retina, or other morbid conditions, which render any uniform mode of treatment necessarily unsuccessful. His plan is, in the first place, to treat these morbid states with appropriate remedies, and when they have been subdued, to resort to the preparations of nux vomica. The first case which is presented, is that of a worker of silk, 17 years of age, and of sanguine temperament, who labored under amaurosis of the right eye, preceded by congestive amblyopia. The catamenia were regular, and she had never suffered with any affection of the eyes, except once, the preceding year, from bathing her feet in the cold waters of the Rhine. For some time previous she had perceived a weakness in the sight of the right eye, mists floating before her eyes, orbital pains, and an unusual sensibility to light—her eye was clear, the ground of the pupil very black, pupil dilated, but little mobile, and of an irregular form; from an old wound of the cornea followed by adhesions of the iris—she had pains in the orbit, the temple, and forehead, but no other traces of inflammation or fever. The sight was lost, and the patient could neither walk alone, nor see the hand or fingers of her attendant. She was bled from the arm to the extent of ℥ x. and a collyrium of rose water and extract of opium applied to the eyes. These were followed by a saline purgative, ten leeches to the right temple, and light diet. On the third day there was some amelioration—ten new leeches were applied, and a laxative ptisan administered. Under this treatment the pains were removed, and the obscurity of vision so far relieved, that the patient could distinguish M. P.'s hand. In proportion as the sight improved, a little photophobia returned. Ten more new leeches were re-applied to the temple. On the seventh day a blister was applied to the nape of the neck. There was no pain, but the dilatation of the pupil remained, and the pupil was quite black. Her sight, however, continued to improve, and she can distinguish characters of half an inch in length. Beyond this point, however, no improvement could be effected, and in this state she remained some days, during which time the treatment was suspended. M. Petrequin now used frictions with the tincture of nux vomica on the temples, forehead and eyebrows. In two days the sight had became more clear and extended, and she improved rapidly. This treatment was continued for

five days, at the expiration of which time her eye was perfectly restored, and she left the hospital.

In this case, so soon as the congestion with which the asthenia of the retina was complicated was removed, by appropriate means, the progress of the case was astonishingly rapid.

The next case presented by M Petrequin, was complicated with anemia, and ascites, and anasarca, consequent upon intermittent fever, and consequently required an entirely different treatment. The patient was a sadler, aged 27 years, of a lymphatic but not scrofulous temperament. He had tertian fever in August, 1837. The disease lasted three weeks, during which time he was bled, and took pills—œdema soon manifested itself in his feet and legs, and gradually extended itself to his thighs and trunk, and with it a voluminous ascites was developed. This state of things was partially removed by purgatives, but as soon as the abdominal swelling began to subside, the sight became feeble and obscured, and the patient was affected with an amblyopia which augmented in intensity as the ascites and anasarca disappeared. He was bled from the arm, and vesicatories and a seton applied to his neck; but the amaurosis continued to increase, and he left the hospital. On the first of January he re-entered the hospital in a miserable state. His skin was pale, his limbs œdematous, and his abdomen swollen, but without pain, his digestion feeble, and appetite but small. He cannot walk, and can scarcely rise from his bed. There was no appreciable alteration in the eyes. The pupil was clear, and moderately dilated—the iris of a brown color and mobile—the paralysis of the retina is general, and he sees no better on one side than the other—but there was neither pain nor photophobia. He could see his hands indistinctly, but could not distinguish his fingers, and he had the characteristic physiognomy of the blind. M. Petrequin before he began the treatment of the amaurosis, placed the patient upon a suitable restorative course under which his general health improved, but his eyes remained in the same state. Vesication on the forehead over the right eye was produced, and a quarter of a grain of strychnine and three grains of nux vomica were applied to the abraded surface. This was repeated in a few days. In a few hours after the first application, there was an evident improvement in the vision of the right eye but the left remained unaltered. A similar treatment was now adopted for the left eye, and two pills of calomel given daily The vision of the left eye now began to improve. As an auxiliary the tincture of nux vomica was applied to the forehead. Soon after the sixth vesication, which had been repeated every five days, his vision became clear and extended—he read small characters *oculo curente*, and saw equally well with either eye. The whole treatment only occupied twenty six days, and when it is considered that the disease had lasted four months, that the ordinary means had failed, and that it was complicated with a radically depraved state of the general health, we must admit that the endermic method of applying the strychnine is one of great power, and that M. Petrequin is entitled to high credit for his successful treatment. In his remarks upon this case, M. P. give his opinion that in analagous cases the seton in the neck has the effect of increasing the visual asthenia. He also condemns the use of bandages in similar cases, as he believes the light is then a very useful excitant.

We have not room for a more extended synopsis of M. Petrequin's interesting paper, and will only add some of M. P 's concluding observations.

"Without method we shall arrive at nothing. It is with this view that I have endeavored to point out the necessity of preparing the patient properly, and of thoroughly analysing the different elements of the disease, as the only course which will enable us to combat it with appropriate means. Without that, this method though so efficacious, may prove dangerous, if, for example, there exist *ramollissement* of the brain, a varicose state of the

vessels of the retina, a latent ocular phlegmasia, an inflammatory, congestive or apoplectic idiosyncracy, &c. Mercurials exert a powerful influence, though in general but little understood. Calomel, which produces such remarkable antiphlogistic effects in peritonitis, in simple or phlegmonic erysipelas, and which produces such an important antiplastic action in iritis, and in many ocular affections, constitutes an efficacious remedy, which has not been sufficiently tested in analagous cases. It promotes the absorption of obstructions of the retina, and a removal of the irritations which are developed there, and contributes to a favorable issue of the disease, but every thing depends upon their being administered *apropos*.

On the Catoptric Examination of the Eye. By the Editor.—In our number for August, 1838, we gave an account of a new means of diagnosis between amaurosis and cataract, discovered by M. Sanson. The surgeon observed that, when a lighted candle was held before an eye, the pupil of which was dilated, and in which there was no obscurity of the transparent tissues, three distinct images of the flame were visible; two upright and one inverted. Experiments made to determine the causes of these reflected images, and the changes which occur in their number, position, &c. have shown, that if a light be placed before the convex face of a single watch glass, or of several arranged one behind the other, one or more upright images of the flame will be seen, according to the number of glasses used.* Now, in the eye there are two superimposed convex surfaces, viz: 1. the cornea, 2. the anterior capsule of the chrystaline lens. Thus the formation of two upright images is explained.

Again, if a light be placed before the concave surface of a watch glass an inverted image is seen. Such a surface exists in the eye, in the posterior capsule of the lens; and thus the third image is accounted for.

We have been led, by the statement of M. Sanson, to examine the eye catoptrically in a number of cases within the last ten months, and the results of our investigations are entirely confirmatory of the representations of that distinguished surgeon. But it is not merely as a means of diagnosis between cataract and amaurosis, that this method of examining the eye is useful. The color, size, distinctness, &c. of the reflected images, enables us to distinguish many conditions of the transparent tissues of the eyes, which could not, by any other means, be diagnosticated. Dr. Mackenzie, of Glasgow, has recently employed it to determine the seat of the different varieties of glaucoma, and it is capable of further application. In fact, we are persuaded that the catoptric examination of the eye will prove as useful a means of diagnosis in various alterations of that organ, as auscultation and percussion are for those of the chest.

It should be borne in mind that very careful examination is usually required before those who are unaccustomed to observe them are able to detect the reflected images—once noticed, however, they are afterwards readily seen.

Dr. John Neill, the intelligent resident surgeon at Wills Hospital, has constructed some models which serve to illustrate these catoptric phenomena, and to assist the student in detecting the reflected images. These models are formed of three watch glasses. Two of them are of the same size and smaller than the third. The former are attached together with their concave surfaces opposed, so as to represent the capsule of the lens, and are

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* At least so it is stated. But in truth, each image is double—one being reflected from each surface of the glass; and these images are the more distinct the thicker the glass is.

inserted in a hole made in a circular piece of pasteboard. This diaphragm thus constructed, is placed in a pasteboard cylinder or circular box near one end, and this end is covered with a larger glass, to represent the cornea. The other end of the box is closed, and the parts described are kept together by strips of paper and paste. We have thus a good representation of a natural eye. To represent the opacity of the capsule, other models are made with paper pasted on one or the other of the reflecting surfaces. With a little ingenuity models may thus be made to exhibit sufficiently well most of the different conditions of loss of transparency of the tissues of the eye.

Our investigations are not sufficiently matured to authorise us to lay them at present before the public, but we hope in due time to communicate the results.—*Am. Jour. Med. Sci.*

On the Efficacy of Extension, Shampooing, and Percussion, in Muscular Contractions. By Dr. RECAMIER, of the Hôtel Dieu. The peculiar functions of all the organs of the body may be disturbed, either directly or indirectly—the deviations from health being in many cases dependent upon the state of an organ at a distance from the one, which exhibits the morbid phenomena.

The contractile functions of the muscles, involuntary as well as voluntary, not unfrequently exhibit the truth of this remark. My object in adducing the following cases is to point out the great efficacy of simple mechanical means in rectifying many muscular ailments.

1. About eighteen years ago, I was consulted by a middle-aged gentleman, who had for upwards of four years been regularly nailed to his bed by a pain in the right side of his neck, shoulder, and arm, which was so agonizing on the slightest movement that often he could not refrain from screaming out.

All sort of anodynes and emollients had been ineffectually tried. I advised the use of regulated and, as it were, elastic percussion with the hand on the affected part. At the first it was to be administered in gentle taps, and gradually with more and more forcible beats. By the aid of this simple means alone, the patient was speedily relieved from all his suffering, and was soon enabled to resume his duties as a judge of the peace.

2. A young girl, 18 years of age, was admitted, in 1836, into the Hôtel Dieu under the care of M. Racamier, for pleurisy. At the beginning of the following year, the catamenia, which for some time back had been scanty, were suddenly arrested by exposure to wet and cold. Dyspnœa and general *malaise* were the consequence. She was re-admitted into the Hôtel Dieu, Leeches were applied repeated by to the vulva; but then the left arm, forearm, thigh and leg, became affected with extreme rigidity, and these symptoms were accompanied with retention of urine, and with a most painful difficulty in evacuating the bowels.

Bleeding, anodynes, in enemata, as well as given by the mouth., &c., &c., were freely employed, but with no avail; and this poor creature remained for two entire months in the most distressing situation of stiffness of the left limbs and retention of (or rather, we presume, difficulty in passing) the urine and the fæces.

On examining the rectum it was found to be quite empty; but the *sphincter ani* was exceedingly contracted.

I dilated the stricture; the pain, although severe at the time, ceased almost immediately, and the evacuation of the bowels became at once much more easy.

The rusult of this first trial induced me to treat the urinary affection in

a similar manner; and with this view I began to work or knead (*masser*) the neck of the bladder against the pubes, by means of a finger introduced into the rectum; the strangury ceased as quickly as the constipation had done.

I then resolved to apply a similar mode of treatment to the contracted muscles of the limbs, acting as in cases of ordinary cramp.

I commenced with the arm; and it was not without great difficulty that I overcame, little by little, sometimes by continued efforts and at other times by efforts *en cadence*, the resistance of the extensor muscles of the fore-arm, the flexor of the hand, and, also of the deltoid and other muscles of the shoulder-joint.

By dint of patience, however, the arm was bent, the hand opened, and the arm was gently removed from the side; then laying hold of the hand, I kept swinging it about.

After this rather violent, and moreover painful, manipulation had been continued for some time, it was found that the patient was able to move her arm about herself.

My attention was then directed to the affected lower extremity; but here it required the strength of three people to bend first the knee and then the thigh on the pelvis. We may readily suppose that these efforts were attended with great suffering to the patient. When the pliability was once restored, the limb was swung about from side to side for some time. This did not require to be continued long, till the girl was able to use the limb herself, so as to walk about the ward.

Gradually she recovered the use of all the contracted parts, so that she soon left the hospital nearly quite well.

The *third* and *fourth* cases were of wry neck; in both, the disease was cured by the gradual but forcible extension of the contracted muscles.

The *eleventh* case which M. Recamier relates, was one of permanent and painful rigidity of the muscles on the back of the neck, in an elderly lady, who was, in consequence of the affection, confined constantly to her sofa. A variety of means had been ineffectually tried for a length of time, when, on the suggestion of our author, shampooing and compression speedily effected a cure.

5. Five and twenty years ago, I was consulted by a lady, who had long severely suffered from a *fissure of the rectum*, for which the late Baron Boyer had divided the sphincter.

The operation, however, did not prevent a relapse of the disease, and the patient continued to suffer dreadful pain in the rectum, especially on going to stool.

Dilatation of the sphincter and of the lower end of the rectum, by means of bougies, gradually increased in size, ultimately succeeded in effecting a perfect cure.

It is to be remarked in this, and in many other similar cases, the dilatation was attended with excruciating pain.

Dr. Recamier mentions several other instances of painful constriction of the anus, either simple or complicated with hæmorrhoids, fissures of the rectum, &c. in which the use of gradual but forcible distension of the gut was speedily followed by great relief, and ultimately by complete recovery.

He adds that the surgical operation of dividing the sphincter may be dispensed with in the majority of cases.

6. Several years ago I was sent for to a middle aged lady, who was suffering dreadful torture from *une colique nerveuse et hystérique*.

Without delay I placed my extended palms on her belly, and commenced a gradual and firm compression—this had not been continued long before the severity of the suffering quite ceased.

In a future paroxysm I made her waiting maid *asseoir sur le ventre de sa matresse*; and this mode of compression was speedily effectual. (!)

In another case of a like nature, I have used with success a binder drawn very tightly round the abdomen; adding, if necessary, a pad or cushion over the seat of the pain at the same time.

When in severe colic the intestines are felt through the abdominal parietes, like hard cords or serpents, I have repeatedly relieved the patient's sufferings by kneading them, as it were, with my hands, so as to overcome their unnatural state of constriction.

7. A lady, thirty two years of age, long suffered from excruciating pains in the hypogastrium, unattended, however, with fever. On examining per vaginam, the uterus was felt to be quite healthy; but, on examination by the rectum, the posterior surface of the uterus was found to present several inequalities to the finger. This case I regarded to be one of a purely nervous, or muscular, character, and likely therefore to be benefitted by compression.

Grasping the uterus in the hypogastrium with my hand, I pressed upon, with two fingers of my right hand in the rectum, the inequalities just now mentioned; I was surprised to find them gradually disappear; while at the same time the patient, who at the beginning of the experiment suffered most severe pain, declared that she was now comparatively quite easy.

These *bosselures* having been in this manner dissipated, on three or four occasions, the pains ceased to return.

The cure was rendered permanent by the use of a bandage, tightly laced round the pelvis and hypogastrium.

What relation is there, asks M. Recamier, between the cause of these uterine pains and the partial spasms of the womb—an organ which we know to be muscular and eminently contractile!

The next two cases, which our author records, are instances of violent intestinal spasms, which were speedily relieved by the employment of forcible compression, and of enemeta of warm water administered at the same time.

10. A lady, thirty years of age, had for several months been affected with a permanent and apyretic hiccup, the *secousses* of which were so violent, as quite to lift up and strike every part of the body. Various remedies of an anodyne, antispasmodic, &c., nature had been employed but without decided benefit. I suggested the use of a firm belt, provided with a pad or cushion placed over the pit of the stomach. By this simple means alone, the patient got entirely rid of her annoying ailment.

12. A young lady was, in 1834, affected with various chlorotic symptoms, for which steel, active exercise in the open air, &c., &c., were recommended by Dr. Colson of Beauvais. In 1835, after exposure to wet and cold, she began to be affected with an incurvation of the spine to the left side, so that the trunk formed at length an angle of 45 degrees with the vertical axis of the pelvis; and at the same time, the right fore-arm was immoveably contracted upon the arm. Such was the condition of this poor invalid, when she was sent to Paris to be seen by MM. Andral and Marjolin and by myself.

Leeches, cupping over the spine, baths, &c., had been repeatedly tried; but without any effect. The result of the metropolitan consolation was to recommend the use of gymnastic treatment, of fumigations, of leeching and cupping, of embrocations, &c.,—but these means were used with no better results than heretofore.

She was then put under the care of M. Guerin, and subsequently of M. Humbert at Morlaix; and, although nearly two years were spent in trying various remedies the condition of the patient was little, if at all, improved.

Upon her return from Morlaix, she once more consulted M. Recamier, who, remembering the striking results obtained in the second case, suggested to M. Colson to try a similar mode of treatment.

Severe pain was caused by the forcible extension of the forearm, combin-

ed with the shampooing of the biceps muscle. This might have been expected, seeing that the muscle had beeen permanently contracted for upwards of three years.

The gradual extension and kneading of the muscles of the affected shoulder and of the trunk were attended with much less pain; indeed the manipulation, although very irksome, was almost immediately followed by a feeling of great relief. The improvement of the state of the shoulder and of the affected side of the neck was speedily most remarkable; the condition of the arm and fore-arm was not so promising.

By continuing, however, steadily the same plan of treatment, this young lady gradually recovered the use of the contracted limbs, and was enabled to resume *ses anciennes habitudes;* whereas, during the preceeding three years, she had been quite shut out from society, and an object of great helplessness.

13. Last December I was sent for to meet MM. Lisfranc and Chevreux in consultation upon the case of a middle-aged lady, who had been affected some months previously with hysterical ailments; on the cessation of which there supervened a violent pain, first in the coccygeal and then in the cervical and occipital regions, recurring in fits of the most excruciating agony.

During the continuance of these most severe sufferings, there were also, now and then, symptoms of subacute inflammations of the uterus and its appendages present.

The patient had been visited by MM. Andral and Chomel. A host of medicines, antiphlogistic, anodyne, epispastic, derivative, &c., had been tried; but without any decided benefit. The quantity of opium, which she had taken without producing even narcotism, was immense. What had procured perhaps more relief than anything else was the application of four grains of the extract of stramonium to a blistered spot on the scalp; but the symptoms of poisoning from it were so alarming that the physician was unwilling to repeat the remedy.

M. Recamier, having attentively studied all the phenomena of this very aggravated case, suggested the following means to be tried:—a firm belt round the hypogastrium, provided with a strap and cushion to compress the os coccyx and the fundament; enemata of assofœtida, camphor, castor, opium, and sometimes of quinine, when the return of the paroxysm appeared to be at all periodic; the internal use of pills of musk, camphor, and assafœtida; electro puncturation; and lastly the extension and shampooing of all the muscles, which were at any time affected with cramp.

Before leaving the house of the patient, M. Recamier had an opportunity of witnessing one of her dreadful paroxysms of pain, which had, hitherto, usually lasted for three or four hours; the head was thrown backwards, and her features were distorted by convulsions. Having satisfied himself that the muscles on the back of the neck and shoulder were violently contracted, he requested MM. Lisfranc and Chevreux to fix the two shoulders, while with one hand he (M. Recamier) forcibly drew the head forward, and with the other he *kneaded* and *pommelled* the affected muscles.

The patient all this time was screaming out with pain; but no sooner was the head fairly bent forward than she began to smile, and confessed that she was quite easy. M. Recamier advised that the head should be removed about from side to side for some time, in order to prevent the speedy return of the cramp.

The future relapses of the disease were always treated in the same simple manner, and with equally gratifying success.

(The report stops here.)

M. Recamier closes his interesting and instructive paper by the enunciation of the following conclusions:—

a. It is necessary to discriminate those spasms or contractions, which are

not dependent upon or proceed from, an affection of the nervous system, but which constitute a direct loss of the contractile functions of the affected muscles themselves.

b. In idiopathic muscular contractions, in wry-neck, in spasmodic colic, in permanent spasms of the sphincters, &c., the use of extension, compression, and shampooing, and the application of the cupping-glasses, seem to be by far the most efficacious means of treatment.

c. Hence it is rarely necessary to have recourse to section of the contracted muscles in such cases. Where we know, or have reason to suspect, that there is an actual degeneration or morbid change of structure in the part, such an operation will probably be necessary.—*Revue Medicale.*

Remarks.—We quite agree with the Editor of the French Journal, in which M. Recamier's paper appears, that it is one of the most practically valuable which has been communicated to the profession for a great length of time.

The character of M. Recamier stands very high among the ablest physicians of the French metropolis: from our own experience of the French medicale literature, we should be inclined to award the palm of pre-eminence to him and to M. Andral, as the two men of the largest and most comprehensive minds, and the best imbued with the genuine spirit of true philosophy.

Their views on medical questions are always clear and sagacious, and their practice seems to be invariably simple and natural.

They are the very antipodes of such men, (able though these are) as MM. Bouillaud, Velpeau, &c., who too often allow themselves to adopt certain notions of disease, and strive to confine nature within definite and arithemetical calculations.—*Ed. Med. Chir. Rev.*

Urea in the Blood in Cholera.—In a recent Number of *Poggendorf's Annals*, it is stated that Marchand detected slight indication of the presence of *Urea* in the blood of a patient who was affected with cholera, and who had not passed urine for three days. Still more recently Dr. Harry Rainey, of Glasgow, has distinctly detected urea in the blood of a patient who had died with all the symptoms of Asiatic cholera. The patient, a female, was ill eleven days, during which only 36 ounces of urine was secreted, including a small quantity found in the bladder after death. The blood analyzed was taken from the larger vessels and heart. There was detected rather more than one grain of urea in each ounce measure of blood.—*London Medical Gazette*, 1839.

Annalysis of the liquor Amnii.—Dr. G. O. Rees has made a chemicale examination of the liquor amnii in four cases obtained, at the 7 1-2 month of uterogestation. The results show that this fluid varies greatly in proportional constitution in different, individuals, at the same period of utero-gestation, so that, like all the secretions of the body, it is agected by the temperament and diathesis of the mother. The specific gravity of the secretions, however, varied but little in the specimens examined by Dr. Rees, (1007. to 1008 6) a precaution, he thinks, on the part of nature, to preserve a medium of fixed power to oppose the motions of the fœtus in utero.

The experiments of Dr. Vogt, of Berne, (see this Journal for Nov. 1837, p. 219,) would lead us to suppose that there is a great variation in the density of the fluid at different periods. Dr. Rees does not regard those experiments as conclusive, as there is a want of proper relation between the solid contents and specific gravity of the fluids, as given by the Swiss chemist.—*Guy's Hospital Reports, Oct.* 1838.

Part III. MONTHLY PERISCOPE.

Hooping Cough treated with Carbonate of Iron. We are informed by the Med. Chi Rev. from the *Medicinishes Corresp. blat*, that "Dr. Steymann, a correspondent of one of the German Journals, very strongly recommends the use of chalybeate medicines, in the cold or chronic stage of hooping cough.

He gives it, at first, in minute doses, frequently repeated, alone, or in combination with sugar. He always premises the use of an emetic.

The following cases illustrate his practice:

"Case 1. Henry Schraeder, 11 years of age, had been suffering from severe hooping cough for upwards of two months, when Dr. S. visited him. He prescribed,

Carbonate of iron, twenty five grains.
White sugar, twenty grains.

divided into ten powders, and one given every three or four hours.

In the course of a very few days there was a marked mitigation of the cough The quantity of the carbonate in the powders was gradually increased; the hooping ceased, and the patient quickly recovered his strength and plumpness.

Case 2. Jules Etier, five years of age, had just recovered from the small pox, when he was seized with hooping cough. He had been suffering from most violent paroxysms of it for upwards of three weeks, when Dr. S. ordered him the use of the carbonate of iron. At the expiry of four days, the child was completely relieved from the cough.

N. B. The suggestions in the preceding communication appear to us to merit the attention of medical men."

Closure and Obliteration of the os uteri, during pregnancy. We give the following extract from the American Journal, as it is curious and novel. But since we have found accoucheurs disposed to cut the presenting part of the uterus, in cases of this anteversion of the uterus which carries the os uteri too high up on the sacrum, we feel unwilling that it should go the public without a caution for ensuring a correct diagnosis between such cases and *real* obliteration.

Dr. Samuel Webber, of Charleston, N. H. says—Early one morning I was called upon to attend Mrs. O——, aged 28, in labor with her first child. The pains were said to have been regular and of moderate strength at night. Upon examination I found a large rounded tumor pressing well down into

the vagina, but could at first discover no os uteri. After a prolonged and careful examination, I found a little back of the centre of the tumor a slight inequality; consisting of a very shallow depression or dimple, just admitting the tip of my finger with a little inequality in the edges surrounding it, a very slight protuberance being perceptible before and behind it. The cavity of the dimple was smooth and firm. It immediately occurred to me, that from some inflammatory action, union had taken place between the lips of the os uteri, thus obliterating it, while the cervix had been completely dilated, either by the growth of the child, or by the parturient action. As the pains were not excessive, I determined to wait, with the hope that their progressive action would either overcome the adhesion of the opposing surfaces, or so dilate and enfeeble the point of union, that but little assistance would be necessary; at three P. M. the pains began to be severe, but on again examining, I found but little change, though the whole accessible parietes of the uterus seemed thinner and softer than in the morning. After noticing the effect of a pain or two, as another was coming on, I pressed the end of my finger firmly into the shallow depression, so as to present the edge of the nail to its bottom, aiding its effect with a slight scratching and boring motion. In a few seconds the finger passed through to the membranes, and the os uteri rapidly dilated to the size of half a dollar. The labor terminated favorably about seven o'clock P. M. and the mother's getting up was speedy and favorable.

Neuralgia of the Testicle. This, with the two following articles, have been extracted from the *Doublin Journal*, by the American Journal of Medical Sciences.

This is fortunately a rare disease, for it is one of the most painful ones to which man is subject, and often a very intractable one. Dr. Graves, in the Doublin Journal for January last, mentions two cases. The first occurred in a young gentleman of highly irritable nerves, who had studied hard and dissipated much. The paroxysms of pain did not observe any marked period, but returned daily at uncertain intervals, which grew shorter and shorter, until at last he had scarcely any respite day or night. There was no fever, and not the slightest appearance of local congestion or inflammation. This case yielded to large doses of carbonate of iron freshly prepared, and frequent inunction of the testicle and cord with belladonna ointment.

The second case occurred in a gentleman who labored under neuralgic pains decidedly of a gouty nature. In him the pain of the cord and testicles used to come on every afternoon about four o'clock, and continued for several hours. The pain was at times very severe. The neuralgia of the testia disappeared after a few days, and was replaced by a violent gouty pain in the loins and right hypochondrium. The latter yielded to the usual local treatment and the use of colchicum internally.

Method of preparing Sinapisms for the purpose of withdrawing Gout from the vital organs to the extremities. Dr Graves says that the sinapisms usually employed for inviting gout from vital organs to the extremities, act too quickly to be long borne; and of course only give rise to very superficial inflammation, and that of very brief duration. To fix gout in a part, *e.g.*, the foot, he adds, our application must act much more gradually, and must excite the deeper seated tissues. These objects may be obtained, he states, by mixing one part of strong and fresh ground mustard powder with three of flour, and adding as much treacle as will convert them into a viscid paste,

which may be spread like a plaster on linen, and applied to the part. This will be borne for four or six hours, and will cause a redness which will last a whole day. The proportion of flour may vary according to circumstances.

Treatment of Permanent Hypertrophy of the Tonsils. Dr. Graves considers the best remedy for this affection, to be the nitrate of silver, and he prefers Mr. Cusack's method of applying it which is as follows: "The solid stick of lunar caustic, or some of the latter in powder, and placed in a proper instrument, must be kept steadily pressed against a particular spot of the enlarged gland; two, three or five seconds will suffice to secure the formation of a small eschar, which falling out, will leave in the part, when healed, a slight depression like the largest pit formed by a small pox pustule. When this has been effected, which is usually in about five days, a similar proceeding must take place with the other amygdalæ; and so on in each, turn about, until the desired reduction of size has been accomplished." Dr. Graves prefers this method, to the use of the ligature or to excision. When the glands are large, he says, this process usually requires about six months; it is slow but sure, and must be intermitted when any accident gives rise to temporary sore throat or catarrh.

Division of the Prostrate in Lithotomy. H. M. Phillips, Esq. Assistant surgeon to the Royal Cornwall Infirmary, strenuously recommends the following modification of the above operation, as diminishing the risk of life usually attending the lateral operation of lithotomy; viz.—hemorrhage, puncture of the rectum, peritoneal inflammation, with parulent deposit about the neck of the bladder; and infiltration with its consequences.

"Having introduced a straight grooved staff into the bladder, and having reached the membraneous portion of the uretha by the usual incisions on the left side of the perineum, I cut into the groove of the staff. The staff being still firmly held by an assistant, I introduce the nail of the fore finger of the left hand into the groove, then insert the point of the knife, also into the groove in advance of the finger, its flat surface resting on and parallel to the plaine of the nail; both are then carried steadily onward until the knife enters the bladder: indicated by the gush of water; it is then withdrawn, and the *finger* used in pushing firmly and fairly into the bladder. The forceps is then introduced upon the finger (the best director in all operations), and the stone is embraced.

"It will be seen that the principle acted upon here is the same as that which proved successful in the hands of Cheseldon, and was so warmly commended by Sir Astley Cooper; namely, the partial separation of the lower portion of the prostrate gland with the knife completing the separation to the necessary extent without a cutting instrument. Cheselden used for this purposed the blunt curved gorgot, I use *the finger*. And I do declare, having tried this method on the adult, I have found no difficulty whatever in enlarging the opening sufficiently, by simply protruding the finger into the bladder, which is accompanied with the sensation of a slight tearing.

"The advantages of this mode of operating are—the certainly of avoiding hæmorrhage, or of puncturing the rectum, and the equal certainty of being able to make the opening into the bladder large enough, to extract the stone, and no larger. I may add, that I never yet found any perineum too deep to prevent my enlarging the section of the prostrate with the finger; and I am quite satisfied that any lithotomist who may adopt this method will not readily abandon it.—*London Med. Gaz.* 15. Dec. 1838.

SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] JULY, 1839. [No. 10.

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

A case of Aneurism, successfully treated by the Needle. Read before the Medical Society of Georgia. By C. P. RICHARDSONE, M. D. *of Savannah, Geo.*

IN submitting the following case, as illustrative of the treatment of aneurism, to the consideration of the Medical Society, I do so as much from its novelty, as a hope that its successful termination may induce others, when the opportunity occurs, to resort to a similar practice. On one or two occasions I had met in the periodicals of the day, with cases of aneurisms treated successfully with the needle, and as the reasons advanced in support of the plan appeared to me fair and specious, I determined, should a case of the kind come under my care, that I should give it a trial. When the following case came under my observation, I put my resolve in practice, and feel gratified in saying, that its issue was as happy as I could have wished.

Aneurism is a disease of so peculiar and dangerous a character, that its treatment in modern times has necessarily engaged much of the attention of surgeons; consequently, we find, that various methods have been devised and promulged for their allevi-

ation—but all approved modern authority appears to have settled down into the belief that the knife is the only remedy on which they can rely. That aneurism can be successfully treated with the needle, I have every confidence, and if so, certainly the facility of the modus medendi—the small amount of suffering—the rapidity with which the cure is effected—the absence of all danger—all taken together—and this superseding a painful, and to say the least, not always successful operation, is an achievement in the cause of suffering humanity, and certainly worthy of the consideration of the accomplished surgeon. In all lesions of parts, nature establishes a process of reparation of her own. The successful surgeon is he, who narrowly watches her indications, and acts as an auxilliary to her. We all know that the knife is the opprobrium of our art; if then, by sedulously consulting the hints that nature throws out, we can substitute means by which the knife may be set aside, humanity and science alike call on us to do it. It is particularly worthy of attention, that in aneurism, as in other diseases, nature is known, sometimes, to perfect a natural or spontaneous cure, and that this cure is achieved by no less than five ways—though in all, the principle which nature employs for the cure is identical. The first of these is accomplished by the aneurismal sac being so strengthened and filled with coagulable lymph, that no fluid can pass into it, and of course all danger of rupture is prevented, whilst at the same time the original canal of the vessel remains pervious, and transmits the blood. 2nd. An aneurism may undergo a spontaneous cure, by not only the sac being filled with coagulable lymph, but by the arterial canal being obliterated. 3rd. An aneurism may be closed by the tumor acquiring such a size and position that by pressing on the trunk of the artery above or below, the sides of the aneurism are thus brought into contact and adhere. 4th. A spontaneous cure of aneurism has also been known to take place, where the whole periphery of the vessel has been dilated, the sac being filled up with coagulum, but leaving a canal in the midst of the tumor, through which blood continued to pass. And fifth, an aneurism may be cured by a process of suppuration taking place in the sac, after both it and the artery above and below the tumor have been filled with coagulum. In such a case, of course, the integument ulcerates, and a portion of coagulum is discharged through the external

opening, which cannot be removed by the process of absorption. It will be at once perceived, that in all these modes by which nature effects a natural or spontaneous cure, that the coagulum is the *sine qua non*. Now, any method by which this natural or spontaneous process can be imitated, and brought about, namely, the formation of the coagulum is the great end we ought to have in view. I believe that the needle will accomplish this—and if my opinion is correct, together with the opinions of others who have successfully treated aneurism according to this plan, one branch of surgery will, at least, have become much simplified, and the sufferings of humanity much ameliorated. The mode by which I believe the needle acts, is at once simple and plain—a coagulum is formed around the needle, so soon as it is introduced, by its low temperature, depriving a portion of the blood contained in the sac of its vitality—this forms a nucleus, which goes on rapidly augmenting, until the sac is filled with coagulum and terminates in the obliteration of the tumor by one of the modes above indicated.

With these views I enter into the detail of the case.

A. B. an Irish laborer, called at my office on the 27th of January last, with a tumor, the size of a pigeon's egg, two inches above the wrist; the arm was much swollen and tense; its temperature greatly elevated, and as may be supposed, he was laboring under great constitutional disturbance. The tumor was aneurismal: produced by a wound of the radial artery, an inch below the aneurism. The history which he gave me of the case was, that in some fight, three weeks before, he had been stabbed. At the time, the wound bled considerably, but was stopped without surgical aid, and as the wound readily healed, no more was thought about it. In about a week afterwards, his arm became swollen from the elbow to the wrist, and very painful. The tumor then became obvious at the place I have mentioned. Its gradual increase, with the pain and tumefaction of his arm, induced him, two weeks afterwards, to seek advice. When I first saw him, his arm was much swollen, with the blood that had infiltered throughout its whole cellular tissue; the heat and redness intense; his whole system participating in the irritation; and the aneurism tense and pulsating. It was at this time that I passed the needle horizontally through the tumor—using the

precaution to arm the extremities of the needle with pieces of cork, that it might not escape or be caught by the roller with which I encircled the arm. Directions were then given to keep the arm constantly flexed—the bandage to be saturated with cold water—to take a large dose of salts, and to refrain from food. Previous to the passing of the needle, the pulsation of the tumor and the radial artery below the tumor, was distinctly felt. But shortly afterwards (ten minutes) the diastole of the artery was barely perceptible, whilst the pulsating of the tumor had altogether ceased. On the 30th, three days after the first dressing, the tumor was hard, and no impression could be made by pressure—the pulsation of the artery below the tumor was very plain—the pain, heat, and tumefaction of the arm had subsided, with no appearance of suppuration at the point at which the needle was introduced.

2nd of March. The tumor was still hard, and there was no pulsation of the radial artery; round the place of entrance and exit of the needle were appearances of suppuration. In one week from the time I passed the needle, the coagula had sloughed out, and the artery above the tumor, as far as could be ascertained, obliterated. Two weeks perfected the cure, and the man was able to go to work. Had the needle been withdrawn three days after its introduction, or before any signs of suppuration had made their appearance, I believe that the coagula would not have sloughed, but would have been absorbed, and the parieties of the sac gradually coalesced. I further believe that whenever coagulation of the blood in an aneurismal tumor does take place, that the cure of the aneurism may be considered as accomplished, for, as I before said, the sac will contract, the coagulum will be absorbed, some portions in continuity with the sac will become engorged, and consolidate, others will escape by the process of ulceration through the integuments, and ultimately a progressive coalescence of the tumor will thus take place.

There were circumstances in the case just detailed, that were far from being favorable to a fair trial of the plan of cure by the needle. The arm was very much swollen, and inflamed, and the constitutional disturbance greatly in excess, all of which admonished me, that any additional irritation would probably end in ulceration of the parts. If then, a cure can be effected of an

aneurism, under such untoward circumstances, what might we not expect, where the aneurism was slowly progressive—where the system was not much implicated—and where the contiguous parts did not participate in the abnormal action?

ARTICLE II.

Extirpation of an Aneurismal Tumor on the Os Humeri—cure.

By C. B. Barrett, M. D. *of Monticello, Jefferson County, Middle Florida.*

Mrs. Elizabeth Phillips, ætat thirty two, of nervous temperament, and the mother of nine children, in the year 1828, whilst engaged in her domestic duties, received a severe kick from a cow, on the right arm, almost immediately on the summit of the os humeri. The blow at the time gave her excessive pain, so much so, as to prevent for three days afterwards, her using it. Ten or twelve days after receiving the injury, "a small lump," to use her own words, "as big as a nutmeg, and as hard, made its appearance."

Her friends tried the medicinal virtues of herbs, &c. &c., but finding it gradually increasing, she applied, whilst in Savannah, in the summer of '29, to a physician, who recommended its removal, whilst in its incipient stage. She did not like the idea of the knife, but said "she would let it take its chance." Year after year passed on, and the tumor gradually increased in size, until it totally incapacitated her from the performance of her domestic duties. On the 16th December, 1838, I was requested by my friend and colleague, Dr. Pettiss, to visit my patient—the Doctor requesting me to give my opinion relative to the possibility and safety of the operation; as two physicians had said that if a knife was ever put on her arm it would kill her.

On visiting my patient for the first time, I found her in possession of a large aneurismal tumour, (I distinctly felt the pulsation of the brachial artery) extending from the base to the anterior

superior part of the os humeri, and covering the whole of the deltoides, biceps flexor cubiti and triceps extensor muscles.

I made a small incision with my lancet, at its extreme lower point, from its feeling very soft, and readily giving place to the slightest pressure, as well as with a view of ascertaining its contents. The incision was one inch in length, and from it exuded a clear fatty substance, extremely vascular, and of a peculiar odour. The incision gave no pain—my patient was not sensible of its having been done. She informed me that she always experienced the most exquisite suffering, whenever muscular force was required. She observed to me that the tumour had, on the different phases of the moon, and also on changes of the weather, "made her feel as though her shoulder was going to jump out of its place."

From a careful and attentive examination, as well as from the satisfactory replies of my patient to my enquiries, I declared the possibility of extirpating the tumour—assuring her of safety by adopting a judicious course of regimen, and other sequent dietetic measures. I could not foresee any possible danger. Ten days after this, her husband called upon me and said that "his wife had concluded to have the operation performed."

I appointed Thursday the 21st day of February last, for the operation. It may probably seem strange, that I should defer the operation for so long a period as two months, but my reasons for so doing arose from the following circumstances:

1st. In my first interview with my patient she was suckling a fine hearty robust girl eighteen months of age. I therefore, deemed its removal necessary for the mother's future safety.

2nd. My patient was of a very full plethoric habit, weighing about 170 pounds; the subject also of much constitutional irritation—and believing, from personal observation, that many causes of failure, with American surgeons, *after* the performance of surgical operations, to be in consequence of their not having sufficiently *prepared the system*, by putting their patients under a a proper dietetic treatment *before* operating—I was anxious, and indeed determined, if possible, not to fall into a similar error.

I performed the operation in the presence of my valued and esteemed friend, Dr. J. G. Pettiss, and several other friends.

I commenced by making two elliptical incisions of nine inches in length, including also a portion of the skin. On proceeding with the operation, I found the tumor intimately connected with the supra-capsular, musculo-cutaneous, radial and ulnar nerves, and attached to the biceps flexor cubiti, and part of the trieeps extensor muscles. I removed the tumor, after carefully and cautiously dissecting it from its numerous attachments, and from its original formation, to the deltoid process of the os humeri. Its weight, on dissection, was seven pounds, or 112 ounces—its circumference at its extreme breadth 32¾ inches—height from base to apex 18¾ inches. Two vessels were secured, and the flaps brought together by six stitches and adhesive strips. Adhesion was perfected by first intention. The cicatrix was reduced on the 10th day to four and one third inches; and on the 15th day from the operation, my patient was discharged. The arm has now, up to this date, the appearance of a cicatrised wound—but no inconvenience from fever, swelling, or lancinating pains has been felt from the moment of its extirpation: neither has it diminished in size, or altered its appearance with the other. The only complaint my patient has ever made to me, and I give it in her own words, is, "that her arm seems mighty long." The tumour has a conical appearance, and is composed of a fatty, stringy, or ropy substance, enveloped in an hypertrophied cellular tissue. I had nearly forgotten to say that the tumor had been *eleven years* on her arm. I cannot conclude without a slight comment on the intrepidity and bravery of my patient—she even refused the necessary preliminary of securing the arm, bidding me "*do my duty and she would do hers.*" It is a source of much grateful feeling to the friends of my patient, that she is once more restored to the bosom of her family, from attention to the duties or the performance of the offices of which she has been withheld for four years past.

April 28th, 1839.

ARTICLE III.

Successful treatment of Erysipelas, by Raw Cotton. The following is extracted from a letter to the Editor, by F. M. ROBERTSON, M. D. *Augusta, Ga.*

Having noticed in the first volume of the Medical Examiner, that the external application of raw cotton had been successfully employed in erysipelas, by M. Raynaud, I resolved to try the efficacy of the remedy in the first cases that should come under my notice. About two months since, I was called to a case in which the disease had invaded the forehead, face, and a part of the back. The patient was suffering extreme distress from the tension and burning heat of the parts, and the system labored under a state of general excitement. I had the inflamed parts of the surface entirely covered with finely carded bats of raw cotton, which were suffered to extend over on the sound skin. At the same time an ordinary dose of calomel was administered, and followed in two hours by a moderate saline cathartic. On visiting my patient in the afternoon, I found the local symptoms entirely relieved; she stated that the pungent heat and pricking had ceased soon after the application of the cotton. The medicine had operated well, and the general excitement was considerably moderated. The bats of cotton were renewed for the night. On visiting her the next morning, I found that the disease had not spread; the local symptoms were entirely relieved, and the inflammation had nearly subsided. The cotton was continued through the day and the following night, after which it was thrown aside, and the patient recovered, with no desquamation whatever of the cuticle.

A few days afterwards, I was called to a little girl who had, a week previous, accidentally received a small wound, which penetrated through the scalp to the cranium. The wound had suppurated, and, on close examination, I found that it had taken on erysipelatous inflammation, which had extended to the right ear, and, on the forehead, as far as the nose and appeared to be progressing over the entire scalp and face. It was in the afternoon when I saw her: during the morning, the febrile excitement was

high, and she had been, occasionally, delirious. I immediately had the hair cut as close as it could be, with a pair of scissors, and a cold bread and milk poultice applied to the wound, and the entire scalp and forehead covered with the bats of cotton, as in the former case; at the same time, a dose of calomel, to be followed by epsom salts, was administered. The relief from the cotton was immediate; all the bad symptoms were relieved, and, after the operation of the medicine, the general excitement was moderated and the delirium did not return again. In this case the inflammation progressed as far as the cheeks, and to the left ear. The cotton could not be applied over the eyes and nose, as the patient was too young to understand the importance of submitting to such a cumbersome application; it, however, arrested its further progress from the cheeks and scalp. All the local symptoms were relieved as soon as the cotton was applied; no blisters formed on the forehead or cheeks, and the desquamation of the cuticle was very slight: much less than I have ever seen it in the mildest case of this disease, when treated without cotton. During the progress of this case, which lasted for seven days, the only internal medicine administered, except the first cathartic, was an occasional saline aperient and cold lemonade or soda water, made by dissolving the common soda powders of the shops.

I have simply presented these cases for the purpose of drawing the attention of practitioners to this very simple application, without attempting to account for the modus operandi of the remedy. Its use appears to have been suggested to M. Raynaud, by the analogy between the disease and burns, and the well known efficacy of cotton as a local application in the latter. Those who had to contend with the disease, when it prevailed in our city in 1837, as an epidemic, will feel the importance of any remedy which promises to arrest the frightful progress of this, apparently, incontrollable affection, which, in many instances, during the prevalence of that epidemic, from the slightest scratch, spread with terrific rapidity to the whole surface, and carried off its victim amid the most excruciating tortures.

May, 1839.

ARTICLE IV.

Mortality of Hooping Cough, in the City of Charleston. Read before the Medical Society of the State of South Carolina. By H. W. DeSaussure, Jr. M. D. 1839.

Table of Mortality of Hooping Cough, in the City of Charleston from first January, 1826, *to first of January,* 1838.

Years:	1826	1827	1828	1829	1830	1831	1832	1833	1834	1835	1836	1837	Tot.
Male	3	1	32	6	8	2	0	4	1	6	11	6	80
Female	5	0	29	1	6	6	0	4	7	10	14	4	86
White	1	0	7	3	4	2	0	1	3	5	8	1	35
Black	7	1	54	4	10	6	0	7	5	11	17	9	131
Under one month.	0	0	4	0	0	0	0	1	0	1	0	1	6
Under one year	3	0	23	5	9	2	1	3	0	6	7	4	66
From 1 to 2 years.	2	1	20	0	9	5	0	0	1	7	5	1	39
From 2 to 3 years.	2	0	7	1	2	0	0	1	0	4	3	1	29
From 3 to 4 years.	1	0	2	0	2	0	0	0	1	0	0	0	7
From 4 to 5 years.	0	0	2	2	0	1	0	0	0	0	1	0	4
From 5 to 6 years.	0	0	2	1	1	0	0	0	0	1	1	0	6
From 6 to 7 years.	0	0	1	0	0	0	0	0	0	1	0	0	2
From 7 to 8 years.	0	0	0	0	0	2	0	1	0	0	0	0	3
From 8 to 9 years.	0	0	0	0	0	0	0	0	0	0	2	0	2
From 9 to 10 y'rs.	0	0	0	0	0	0	0	0	0	0	0	1	1
From 10 to 11 y'rs.	0	0	0	0	0	0	0	0	0	0	0	0	0
From 11 to 12 y'rs.	0	0	0	0	0	0	0	0	0	0	0	0	0
From 12 to 13 y'rs.	0	0	0	0	0	0	0	0	0	1	0	0	1
Total	8	1	61	7	14	8	0	8	1	16	25	10	166
January	0	1	0	2	0	0	0	0	0	1	0	0	4
February	0	0	0	1	0	0	0	0	0	1	0	0	2
March	0	0	0	0	0	1	0	0	1	1	0	0	3
April	0	0	2	0	1	0	0	1	0	1	1	0	7
May	0	0	5	2	0	1	0	1	0	1	2	0	10
June	0	0	9	1	3	1	0	1	0	2	1	0	19
July	1	0	13	1	0	3	0	1	0	1	2	0	22
August	2	0	13	0	2	2	0	2	0	1	2	4	28
September	3	0	8	3	0	4	0	0	0	0	4	2	25
October	0	0	8	0	1	0	0	1	0	0	2	0	22
November	2	0	2	0	1	0	0	2	0	0	3	0	15
December	0	0	2	1	1	0	0	0	0	0	1	0	5

Being unable to ascertain the number of children affected with Hooping Cough, during any one period of the ten years allotted to me as my portion of duty, I cannot offer any table of the proportional mortality of this disease. Nor, have I been able to obtain any account of the varying characters of the affection in different years, if it varied at all. All that I have been able to

ascertain is, the absolute mortality, the age of the patients, and the months in which they died. This may be found in the table on the opposite page, which comprises a period of twelve years, viz: from January, 1826, to January, 1838. The horizontal line marked total, shows the number of deaths for the whole period, according to sex, color, age, and the season of the year in which they died. The perpendicular line marked total, shows the mortality for each year.

By referring to the above table it will be seen, that the mortality varies much in different years. In 1827, there being but one death, while in the next year (1828,) the number rises to 61; and in 1832, there are no deaths reported. Upon what circumstances this great variation depends, I am unable to ascertain. It may, perhaps, be attributed to the difference in the numbers affected in these years.

It will be seen that the whole mortality for the twelve years, was 166, giving an average of 13 5-6 for each year. Sex apparently exercised very little influence on the fatality of the disease: a few more females than males dying. Color appears to exercise far more influence, nearly 4-5ths of the whole mortality being among the colored population; this may in some measure be attributed to their habitual carelessness and greater exposure, in some measure perhaps to the prevalence of a scrofulous diathesis—pertusses, when neglected in such constitutions, tending to the developement of tubercles. Age also exercises considerable influence on the fatality of the disease: more than one third of all the fatal cases occurring in children under one year—nearly one fourth in those under two years—and one fifth in those under three years—while, after this period the mortality rapidly decreases. Between the ages of ten and thirteen only one death is reported, and none of children over thirteen. In children under one month, the mortality is also very small, depending, I think, on the small number affected at that age. Season exercises considerable influence on the disease. July, August, September, and October, shewing nearly two thirds of all the fatal cases, while December, January, and February, present the least mortality, indicating that the heats of summer and alternations of autumn are less favorable to the disease than the steady cold of winter—and this remark is constant for each year of twelve.

In conclusion, I can only regret that I have been unable from

want of documents, to hand in any details of more value; and that my want of familiarity with statistical details, should have rendered what I have obtained of less value than it would have been made by abler hands.

With respect it is submitted to the Chairman.

ARTICLE V.

Report on a specimen of Milky Urine. By Charles Upham Shepherd. *Read before the Medical Society of the State of South Carolina, Jannary* 11, 1839.

The specimen was submitted for examination by Dr. Bennet. In color and general appearance it resembles milk—scarcely differing from that fluid in sensible properties, except in possessing a faint tinge of red and a weak urinous odor.

Its specific gravity is 1.0086, in which respect it differs essentially from healthy urine, which on an average is as high as 1.02. (The ratio between the two is as 10.086 to 10.200.)

Its red colour is owing to the presence of *hematosine*, or the coloring matter of the blood, as appears from the effect of hydrochloric acid in first deepening its tint, and subsequently in precipitating it from the solution; no less than from its disappearance on simply boiling the urine, in consequence of which it is coagulated along with the albumen. The fluid thus cleared of this matter resembles milk more closely than before.

A few ounces of the urine were exposed to the air in an evaporating basin for a couple of weeks. A thick, creamy ring surrounded the edges of the dish, the fluid being reduced to less than half its original bulk by evaporation, but without having remarkably altered in its appearance, or having acquired a particularly disgusting odor or any decided acid or alkaline properties. The fluid was poured out, and the cream-like ring allowed to desicate. In the course of a few days, it turned yellow, shrunk up, and finally resembled gum.

A portion of the fresh urine was boiled. As the fluid approached the point of ebullition, a thin film spread over its surface, which was so tenacious as to prevent the steam from breaking freely through it; consequently it became inflated like a thick solution of soap in water, when blown into with a tube: and although the basin was at first less than one third filled, the liquid rose into a frothy mop, projecting far above the top of the dish, and required to be removed from the fire to prevent its overflowing. The appearance it presented under the circumstances described was obviously similar to milk. After having been reduced by slow evaporation to about one half its original bulk, it was permitted to cool. The froth subsided into a tough, wrinkled, but thin pellicle, which overspread the surface of the fluid, and also lined its bottom. The contained liquid on being poured off had lost its redish tinge, and had assumed a shade of yellow in its place. It now readily passed the filter, (which it would not do prior to boiling,) but without relinquishing in the smallest degree its milkiness or opacity. The film was regarded as albumen, mingled no doubt with hematosine and mucus, particularly in the heavier portion, which subsided to the bottom of the fluid, inasmuch as it is a property of both mucus and hematosine to become inspissated by heat, and to exhibit a higher specific gravity than coagulated albumen.

Concentrated, pure acetic acid was added to a portion of the boiled urine, and heat applied until the fluid entered into ebullition. The urine hereby became much clearer, and nearly lost its milky aspect, while numerous globules of yellow oil swam upon its surface, which, on the cooling of the fluid assumed the consistence and color of pale butter. From this experiment I am led to conclude that an animal principle analogous to fibrin is present in the urine, similar perhaps to what has been called incipient fibrin in chyle, which principle is dissolved, when treated with acetic acid, and hence the fatty matter with which it was previously combined (after the manner of an emulsion,) became isolated and rose to the surface.

A portion of the unboiled urine was treated with one third its volume of purified sulphuric ether, and the two fluids thoroughly agitated together, and corked up in a phial for twenty-four hours; at the expiration of which time, the ether had assumed a deep yellow color, and the urine had nearly lost its milkiness.

The ether was withdrawn from the phial by a sucker, and slowly evaporated on the sand bath. An abundant oily residuum remained, whose consistency was intermediate between olive oil and butter. Its color is yellow and its odour peculiar—both which properties are no doubt owing to the presence of some odorant, resinous body. Farther to show the presence of oily matter in the urine, it may be remarked that in treating it with potassa, we obtain an abundant soap, which collects in a soft cake at the top of the fluid.

The urine becomes clear and transparent on being boiled with potassa, with the exception of a few flocs of phosphate of lime; an effect we should naturally anticipate, inasmuch as fibrin and albumen are both dissolved by potassa, while the fatty matter present becomes converted into a soluble soap. On adding a few drops of acid, however, to the clear fluid, it instantly becomes clouded, but does not recover its milky aspect; the acid operating to precipitate the albumen and the fibrin, the latter of which, however, it immediately re-dissolves. The acid added, also throws down the animal acids into wnich the oil had been converted during the process of saponification. Whether these acids are identical with the stearic, the margaric and oleic, or whether a nice research would prove them to be new, it is difficult to conjecture; though the latter idea will not be regarded as impossible, when it is recollected that the source of the oily matter which is concerned in the formation of a soap, effects the nature of the acid or acids, produced. Hence butter gives rise under these circumstances, to butyric, caproic and capric acids—the oil of the porpoise to the phocenic acid; and that of the goat and the sheep to the hircic acid.

The urine was next tested for urea, by treating a portion of the concentrated fluid with pure nitric acid.

No precipitate of nitrate of urea appeared, although the mixed fluids were allowed to stand for several days. This experiment would not be conclusive in proving the deficiency of urea, inasmuch as the milky consistence of the fluid might operate to prevent the crystallization of the nitrate; but when considered along with the want of urinous odor in the fluid, and the slight tendency to putrefaction it possesses, the non-production of carbonate of ammonia, and the diminished specific gravity of the

urine, leaves no doubt of the almost entire absence of this most conspicuous ingredient of normal urine.

Uric acid, the parent substance of urea (as LIEBIG, from late researches proves, inasmuch as he converts uric acid by the action of per oxide of lead into urea, oxalic acid, and allantoin*) is equally wanting in the fluid under consideration. This we prove also by the action of nitric acid, which fails to develope that rich rose-red hue in the fluid which would occur if uric acid or even urate of ammonia were present—it being an infallible trait of uric acid to suffer such a modification from the action of nitric acid as to give rise to the rosacic acid of PROUST, the purpurate of ammonia of PROUT, or in the opinion of BERZELIUS, simply to an union of extractiform matter with uric acid.

The fresh urine, instead of exerting an acid, produces only a feeble alkaline reaction. This I am inclined to attribute to the presence of uncombined (or free) soda, as potassa when heated with the fluid emits no traces of ammonia. The absence of carbonic acid is obvious on the addition of nitric acid to the fresh fluid which causes no sensible effervescence. A second specimen of urine, however, furnished me within a few days, has on being exposed to the recent warm weather, become carbonated to such a degree as to effervesce very freely, but the alkaline carbonate generated is chiefly that of soda, and not ammoniacal.

The urine is very nearly rendered clear by being allowed to stand for some time after being mingled with either of the following re-agents: viz. corrosive sublimate, alum, infusion of nut galls, ferro-cyanide of potassium, as well as the mineral acids.

A portion of the urine was evaporated to dryness, and the carbon burnt off in an open platinum-capsule. One part of the residium was fused with anhydrous carbonate of soda, and afterwards supersaturated with acetic acid, and tested with acetate of lead for phosphoric acid, which ingredient was detected.

Another portion of the above residium was tested for chlorine, and still another for sulphuric acid, both of which were ascertained to be present.

It was, however, extremely obvious, that a marked deficiency

* See Report seventh Meeting Brit. Association for the Advancement of Science.

of saline ingredients existed in the urine ; and the sulphates and phosphates in particular were much below the usual proportion, while the chlorides approached more nearly to their standard ratio in healthy urine.

It will be seen, therefore, as a result from the following, that *the urine under examination differs in the first place from healthy urine in the deficiency of uric acid and urea, and in the low proportion it contains of saline matters generally; and secondly, in the presence of an unusual amount of fatty or oleaginous matter, mingled with albumen, incipient fibrin and mucus, to which we must add traces of the coloring matter of blood.*

It may be interesting merely to add, from one or two authors, a few allusions to certain diseased urines, which in many respects would appear to resemble that which we have examined.

Berzelius says, that in the species of dropsy called *anasarca*, and which results from a general debility of the animal economy, serosity prevails throughout the urinary passages, and consequently the urine becomes albuminous. It may then be precipitated by the bichloride of mercury, although it still possesses an acid re-action. When the disease has proceeded still farther, the kidneys secrete an albuminous liquid. This liquid is precipitated by alum, and in a still more advanced period of the case by nitric acid: and finally, it coagulates by ebullition. The more the proportion of albumen augments, the more the urea diminishes ; and at last, it disappears altogether.* The presence of albumen in urine is observed in cases of dyspepsia, as well as towards the end of hectic fevers.

Berzelius likewise speaks of milky urine, which he says deposites a cream and coagulates on ebullition—the clot having the properties of caseum and ether, withdrawing from it fatty matter. I suspect that here, allusion is had to a fluid nearly identical with that under consideration, though I venture to express my dissent from Berzelius in considering the clot as pos-

* The *liver*, according to Thenard, sometimes affords a bile, highly albuminous and charged with fatty matter. In a particular instance, this organ was converted into a fatty mass, which yielded 1-16th part its weight of oil. Signor Bizio analyzed bile of a patient who died in the Hospital at Venice of a diseased liver, which contained fibrin, a peculiar insoluble fatty matter, albumen, yellowish oil, a green resin, gummy extract, sugar, chloride of sodium, phosphate of soda, phosphate of magnesia and oxide of iron.

sessed of a caseous nature, inasmuch as it does not suffer the acetous fermentation on being exposed to the air, and a mild temperature even for a long time. I rather prefer to regard it as consisting of albumen, and what has been called incipient fibrin.

Berzelius goes on to say that this sort of urine has been observed equally among males and females; and that it originates in causes not understood, and is unattended by any serious derangement of the general health.

Dr. Elliotson (in the Lancet for 1830.) believes that if the kidney be organically affected, if it have a congestion of blood in it, or be in an inflammatory state, the urine will generally be albuminous. But on the other hand, he does not think, that the circumstance of the urine being albuminous is a proof that the kidney is in this state—at least in a state of organic disease; because he has seen many persons cured of dropsy and restored to perfect health, who had labored under albuminous urine; and if the kidneys had been originally diseased, he thinks it hardly possible that a recovery would have ensued. He is, therefore, of opinion, that although it is possible that in diseases of the kidney and in congestion of that organ, the urine may generally be albuminous, the converse cannot be asserted, viz. that if the urine be albuminous we must necessarily conclude that the kidney is in these diseased conditions.

ARTICLE VI.

Treatment of Scarlet Fever—contained in a letter to the Editor.

By Edward C. Keckeley, M. D. *Charleston, S. C.*

Believing it to be the duty of every physician to add all he can to the stock of medical facts, I send the plan of practice which has been pursued by me in Scarlet Fever. When first called to prescribe for a case, I candidly confess, that I obeyed the call with reluctance. I had been induced to consider the disease as almost an opprobium medicorum. I determined to attempt a track which was not altogether beaten smooth. I found

it so pleasant, that I now travel it without the slightest fear of not arriving at the full consummation of my fondest hopes—the speedy relief of my patient.

The division of Scarlet Fever which has been made by Dr. Dewees, answers all practical purposes. The "scarlatina simplex, or simple constitutional disease, without any morbid affection of the throat," requires very little medical treatment. It will run its course, and the patient get well without any thing being done. I have seen several cases terminate in this way, without the least attention being paid to them. This was the case in my own family. When medicine is necessary the bowels should be gently operated on with small doses of calomel, and epsom salts, and magnesia. The diet should be antiphlogistic. In the anginose state of the disease, the treatment must be commenced with the full emetic operation of ipecac. The emetic may be repeated daily, or even twice in a day. This is the anchor of our hopes. I have seen the disease put a stop to after one full emetic operation. The bowels should be operated on daily by small doses of calomel: two grains to be given every hour until the object is accomplished. So much for the constitutional treatment. Not the least important part of the treatment is the faithful use of suitable gargles. When ulceration has not taken place, I have derived the greatest advantage from the Capsicum. It may be made into a tea with hot water. It, I think, effects more when digested for a time in vinegar. After ulceration has taken place, no mixture as a gargle is superior to the following: 8 oz. solution Gum Arab. 3j Spts. Turpentine, m. I have used this, instead of the Capsicum, with the happiest effects. The medicinal virtues of the Turpentine are not known, and will probably long remain so, in consequence of its being an article of home production. Medical men too generally undervalue our vegetable productions. In addition to the preceding, external stimulant applications to the throat should not be forgotten. For this purpose, the throat should be rubbed frequently through the day with the following liniment: to ℥j Olive Oil, add 3j Tinct. Capsicum. m. At night a light woollen bag filled with warm ashes should be applied around the neck; and through the day, a piece of flannel. I have seen much benefit derived from the use of the foot bath at bed time. In the malignant form, the same treatment is to be pursued as in the preceding variety.

Should any untoward symptom arise, the physician must apply the proper remedy. For the dropsical affection which sometimes supervenes, I generally use small doses of Capsicum, combined with the Sup. Carb. Soda. No peculiarity of treatment is necessary. In the management of Scarlet Fever, the greatest attention must be paid by the physician and nurse. From the trouble attendant upon every case, the nurse requires to be closely watched. A good rule to be strictly observed is, whatever is done, let it be done *quickly* and *faithfully*. I have not the least doubt that nearly all of the cases which terminate fatally, are the result either of improper practice, too long delay, or gross neglect on the part of the nurse. I hold Scarlet Fever to be one among the most easily managed diseases, with which the physician has to contend; but neither of the above three faults must be present. For the above plan, I claim unlimited success—out of about twenty cases one died, and this one was the result of neglect by the nurse, until it became too late for any thing to be done. I forgot to mention that cold drinks are to be strictly forbidden. Avoid the external application of water, as you would the sting of the poisonous serpent.

ARTICLE VII.

An Essay on Congestive Fever. By G. K. Holloway, M. D. *Warrenton, Ga.*

Of all the diseases which, of late, have claimed the attention of the profession, we know of none that has done so in a more eminent degree, than that species of fever usually denominated "*congestive.*" In proceeding to a treatise on this subject, let us first inquire whether this is a disease of recent origin, or only an *aggravated form* of some disease? From all we have been able to ascertain, we are inclined to the latter opinion—that it is an aggravated form of *bilious fever.* Although we have every symptom of congestive fever, in its most malignant form, present from the very begining of the disease, still we are inclined to

view this *disease*, as it is considered, as an aggravated form of *bilious fever*. This term then seems to qualify the fever; and as far back as 1814, we recollect to have heard physicians speak of "*Congestive Fever*," then prevailing, and having prevailed in New Hampshire, as far back as 1811; in Massachusetts in 1812; in New York and Connecticut in 1813: in New Jersey,* Pennsylvania, Maryland, and Virginia, in 1814. What progress it made south we know not; but from the foregoing account it would appear that it was not very rapid.†

In some sections of Virginia it appeared to rage with much more violence than in others; and its most frequent appearance was in its most aggravated form, where there is a *congestion of the internal*, with a constriction of the *external* capillary vessels, accompanied with sudorific exhalation. At that time scarcely any two of the faculty agreed as to the proper course of treatment. There seemed, however, to be three different plans of treatment adopted—one, essentially Brunonian; another, antiphlogistic; and a third, a medium course, carefully avoiding either extreme. The last named, or medium course, seemed to be the most correct and successful. At the time of that observation, we were not connected with the profession; but from the prescription we *then saw*, we *now know* that some of the faculty took similar views of the disease to those now taken by the most eminent of the profession: nor were they those who depended solely on a stimulating or depleting plan of treatment.

This type of fever continued to prevail in Virginia with more or less frequency of occurrence, until the time we left the "Old Dominion," which was in 1826; and as we came southwardly, we found the same disease, wearing all its frightful forms, ravaging whole neighbourhoods, and laying waste whole families.

Having located in Sumter district, South Carolina, in April, 1826, we observed it prevailing with great severity in the lower part of that district. From that time, we have given much of our attention to it; for, being engaged in country practice, we

* Dr. Benjamin Rush is said to have died of this disease in April, 1813.

† We have observed this disease in Georgia for thirty years. The reason why the writer thinks it has made slow progress, southwardly, is, that the culpable negligence of southern practitioners has prevented the publication of its history. *Editor.*

were thrown on our own resources, and although young in the profession, we were consequently compelled to use no small degree of discretion, as we were aware that we were compelled to differ materially from some other members of the profession, as to the nature of the disease, as well as the plans to be pursued in the treatment. The correctness of the opinions then formed, and the remedial means used has been confirmed by upwards of ten years experience, in a practice, for the most part, not very limited.

We then adopted the opinion that it was a disease of a highly malignant character, caused by a congestion of the internal capillary vessels of some of the mucous tissues of the alimentary canal, and that these tissues were disordered in proportion to the length and severity of the disease. We came to the conclusion that the stomach and small intestines were the principal seats of the disease, thereby making a case of "*gastro enterite*," if we may be allowed the term. This local congestion tends, as do all local congestions, to destroy the equilibrium of the circulation, and the sanguineous system comes into, or rather, has a tendency to take on disease; but its action is *centripetal*, and the blood is consequently propelled to the disordered mucous coat of the intestines by the impetus given to it; especially in all forms of an inflammatory nature; and we would, in some instances, but not in all, look upon and treat this disease accordingly. The consequence of this centripetal action is, the production of a new set of phenomena clearly and satisfactorily indicating the existence of *internal irritation*, which continues to increase until a centrifugal action is established. Nor can we limit our remarks to saying, that the morbosity is confined to the *mucous membrane of the intestines;* for we know that all the mucous membranes soon partake, more or less, of the congestion and irritation; but that of the lungs more frequently than others. And when this is the case, we generally consider the prognosis more unfavorable.

Symptoms. These are very various in different individuals, and in the time and length of the attack, and its intensity; but in general, the patient feels some ennui, loathsomeness to food, disinclination to action; food, if taken, digested imperfectly; bowels irregular, sometimes even obstinate constipation, and at others, serous or bilious diarrhœa will manifest itself. There is also

cephalalgia and drowsiness in the after part of the day, with some chilliness, followed by febrile excitement; but the chilliness is not an invariable attendant. After the continuance of these symptoms for an indefinite period, the person is attacked, most generally, with a distinct chill or ague, which is of indefinite duration, but generally abates gradually and fever supervenes. We have, however, known this chill continue for eight or nine hours in many instances, and in a few, we have known the patient die in it. Again, we have known the attack so very mild, as to pass unnoticed; so that the patient considered himself only a little indisposed. These various forms and grades of attack will be seen, when we come to state our cases as they occurred.

On the next paroxysm, however, the symptoms are generally more pointed, or the characters of the disease more fully developed, and the sufferer is then given fairly to understand that he is suffering a regular attack of this fever; but of its danger, he is, both happily and unfortunately, not aware—happily in not knowing the danger to which he is exposed, and unfortunate in not calling medical aid in due time. The pulse is, sometimes, though not always, increased in fullness, and rather so in frequency—say 85 to 90 in the minute, and somewhat chorded. The surface of the body is cool, dry, and somewhat shrunk or hipocratic, except about the upper part of the chest, neck, forehead, and back of the hands, which, so far as our observation has extended, are *always* and *universally* in a state of moisture, which continues throughout the disease. We have seen a most profuse sudorific exudation cover the whole surface, in which it was next to impossible to dry the skin by the most powerful astringent and corrugating remedies. The patient considers himself free from pain, but if pressure be made below the umbilicus, he experiences an obtuse pain, or rather, soreness in the intestines at that part. We have known the pain, however, in some cases, so very acute, as to occasion the patient to cry out with distress from it.

In the first stage, the tongue is generally, though *not invariably*, of a slight or pale red, *on the tip* and *edges*, and sometimes, it cannot be very easily protruded out of the mouth, but has a kind of tremulous motion, and is usually covered in the middle, with a dirty white, or pale brownish fur. *No appetite at all*, or

if any, very dainty, except in a very small proportion of cases. We have known it to be *excessive*, in which cases the middle of the tongue is *very black.*

There is, almost always, a very great thirst, and nothing is craved so much as cold water; yet when he is promised to be indulged, he is often indifferent to it; neither is he then very choice as to the temperature of his drink. His urine is generally of a rosy tint; yet we have seen it perfectly limpid; and then again, we have seen it as high colored as cogniac brandy. We have also known it passed easily, and then again, with all the distress of severe strangury, and passing only in stillicidium, as if these symptoms had been produced by the exhibition of cantharides, or the application of blisters, or some other article calculated to produce extreme irritation of the urinary passages. When this is the case, the patient has a constant desire to be stripping the prepuiium penis through his fingers and thumb.

His bowels are irregular, diarrhœa easily induced, either by drastic, or saline, or hydragogue cathartics. The vis vitæ is readily exhausted, the extremities having an unusual tendency to become cold, particularly in the latter part of the night. The abdomen, after a few days, is filled with flatus, or becomes tympanitic, especially when *purgation* has been freely resorted to *which should now be done.*

In the mild form of the disease, when judicious treatment has been employed, a favorable prognosis may be entertained, and recovery expedited by the end of 3, 4, or 5 weeks; still, however, the disease is sometimes arrested as early as the fifteenth day from the attack. So much for the disease. In the more intense or malignant form, the attack is much more insidious, and is truly to be dreaded as a most inveterate and formidable disease. In this form, all the symptoms are greatly aggravated—the pulse more full and incompressible—nausea most constant and distressing, with vomiting of a thin, glairy fluid, burning and sometimes sour, with an occasional emesis of thick, yellowish brown, bilious matter. In fact, most of the signs of gastric irritation are present—the breathing short, hurried, stentorous and laborious—the eyes of a fiery red, easily suffused with tears, and of quick movement—chest uneasy and oppressed—dry tickling cough, especially when the lungs are involved in the disease—increased thirst, desire of cold drinks—tongue red and of

a glassy smoothness. Extreme restlessness, and d'sposition to change beds, almost constant. The bowels are, sometimes, obstinately costive, resisting, wonderfully, the power of cathartic medicines ; whilst, in other cases, the very reverse obtains. In the former case, when cathartics does take place, it seems as if all the feculent contents of the first passages are passed at once, and the dejection is generally full of dark grey, fœtid sciballistic matter ; after which, a serous diarrhœa, which is always to be dreaded, occurs. The urine is more scant and high colored, and *always passes with pain*, accompanied with a burning intolerance of light, pain in the eyes, fullness of the head, throbbing of the temporal and carotid arteries—the tympanitic symptoms are increased, the abdomen somewhat sore under pressure, deglutition difficult, low muttering delirium, tinnitus aurium, singultus, picking the bed clothes, the sphincters give way, and the secretions are discharged *sua sponte*. The sputa secreted, is white, frothy, and extremely tenacious ; the extremities soon become alarmingly cold ; the countenance becomes deadly pale and cadaverous ; the entire body is covered with a cold clammy sweat, the pulse begins to intermit, and cease to be perceptible, and the tragick scene is closed by the suffocation of the patient, from the bronchial secretion. Such are the general characteristics which mark this form of the disease, although they are somewhat modified in a few instances. And although it may appear paradoxical, it is nevertheless a fact, that the malignant form of the disease runs its course in a shorter period of time than when the attack is of a more mild type. The continuance, or rather the crisis, may be anticipated at from fifteen to twenty one days. When death occurs it generally takes place before the tenth day; not that it has any apparent cause for so doing ; but owing entirely to this almost unmanageable form of fever.

Causes. The causes which are most calculated to produce this fever are, as in all other fevers, numerous. To look for a proximate cause, we cannot : for, as yet, the proximate cause of no disease is known, unless we adopt the opinions of Gaubius and Rush, and consider the proximate cause, the "*ipse morbus.*" But as to the remote causes, they are of easy enumeration ; such as the sudden suppression of perspiration, or of any cutaneous eruption, or of the catamenia, and thereby producing a centripetal circulation. Copious draughts of cold drinks when

much excited and heated, produce the same effects by causing a morbid state of the gastric nerves which is transmitted to the exhalents of the skin, and the small blood vessels and capillaries, thereby causing a constriction of these vessels, and consequently, a retention of perspirable matter, and the accumulation of large quantities of blood in the capillaries of the internal organs. It may not be improper to state here, that as there are three distinct sets of circulation, each performed in a different manner, and dependent on their own peculiar laws, that, as the one is affected, no matter from what cause, there must be more or less impairment of the others; or, as Mr. Abernethy said, "if there is a disturbance in the garret, there will be one in the kitchen." To the above, as causes, may be added, exposure to intense heat of the sun, and to night air, especially if damp—standing in the wet—sleeping in damp sheets—wearing wet clothes—setting up late—debauches of all kinds—free indulgence in butcher's meats in hot wether—free use of alcoholic liquors—and all unwholesome and indigestible food.

As the doctrine of malaria is not perfectly established, or very well understood, as to the manner of its producing its deleterious effects on the constitution, we shall pass it over by classing it as one of the most fruitful causes of fever; and to all we have set down as causes of fever, may be added, all agents whose tendency is to obstruct the natural passages, and derange the natural functions of the body, by inducing an abnormal state of the internal system, but more especially the mucous membranes.

Treatment. The first object in the treatment of this disease is, to equalize the circulation, and reduce the inordinate action; which accomplished, we turn our attention to the cleansing of the first passages, so as to remove all impediments to the return of the natural functions of the secerning and excreting organs; and if there be prospect of inflammation, to arrest it by suitable antiphlogistic remedies. But if, on the other hand, typhoid symptoms or debility be threatened, to be prepared to meet the emergency. We cannot adopt the views of many, so as to consider this disease as one of entirely an inflammatory diathesis; for we are positively confident that in cases which have not exceeded three weeks in duration, and sometimes of a much less period, we have seen symptoms of a thoroughly typhoid character, which required a practice corresponding with this nature.

Nor is it less our duty to see that the skin and temperature of the body are both alike natural.

In treating this disease, the remedial agents which we employ must be in accordance with the violence of the attack. So far as we are capable of judging, venesection should in most, if not in all cases, be resorted to *in the very first stage of the disease.* When the pulse is *moderately full,* somewhat *tense,* and if the effect produced should indicate debility, we should loose no time in counteracting the injurious tendencies of the disease. Indeed we have *heard from very high authority,* that we should be justifiable in using the lancet and brandy at one and the same time; but a more proper procedure would be always to bleed by the pulse, and so soon as we discover the least flagging of the pulse, to stop the blood. As to the changes of color the blood may undergo, it is a most fallacious sign, and not to be, in the least, depended on; for there is no one of the profession who has had even an ordinary share of experience, but who must have noticed its fallacy. A question may now present itself—at what time is it most prudent to institute depletion and the use of a cathartic? As to the first, we unhesitatingly say, *at the onset of the attack, and on the exacerbation of fever,* because the patient will, in that event, be stimulated by the increase of excitement attending the exacerbation; which will, however, be of shorter duration. Now as to the proper time to exhibit a purgative to produce the most salutary effect, we would certainly not give it on the rise of fever, because it might, possibly, increase the violence of the exacerbation, which is always too great. Nor would we give it when the fever is at its height; for we well know that then we should only tend to increase the engorgement of the hepatic system to which the congestion tends. The most that we can do in the paroxysm will be, to endeavor to moderate its violence; for it will, despite of our efforts, run its course; but we should neglect no means calculated to prevent recurrence. We are then left to select the *decline of the fever* as the most suitable period to exhibit our purgative; and this is the more preferable, as it then appears that nature seems disposed to relieve herself of the blood with which she was but just now oppressed. The surface of the body begins to loose its intense heat, the skin becomes more moist, the arteries cease to throb, the head ache remits, and the patient begins to be somewhat refreshed, the

emunctories take on their wonted but heretofore depressed energy—the liver disburthens itself of the redundant bile collected in it, and all the secretions and excretions are performed more in accordance with nature. In this disease, the vis vitæ is soon exhausted, and the efforts at restoration are often in a great measure ineffectual—at any rate, they are feeble; therefore, we must again caution those who wish to employ the lancet, to deliberate well on the effect which may be induced by its use, and not be unnecessarily led into error, from the fact, *that venesection renders the pulse more voluminous, whilst at the same time it diminishes its force and frequency.* Having bled the patient according to the exigency of the case, we proceed to open the bowels by some mild purgative, assisted by warm bath, sinapisms, and enemata, which, having been accomplished, we proceed with small doses of calomel and ipecacuanha; and if the stomach be irritable, we may add a small portion of Acet. Morph. &c. as by the following:

℞ Calomel, gr. xij.
Pulv. Ipecac. gr. iij.
Acet. Morph. gr. ij.
Refined Sugar. ℥j.

Make into twelve powders, and give one every three hours. As drinks, we allow soda water, rice water, Irish moss, slippery elm, gum water, either plain or as lemonade, and every other simple drink that may be desired by the patient, such as toast or apple water, good buttermilk, and such like. And we must here say, that much depends on what we may select as our remedies; for in no case should drastic, saline, or hydragogue cathartics be used, except with great caution, as from their exhibition the most serious consequences are to be apprehended—they invariably produce irritability of the stomach and bowels, and excessive catharsis, to which, rapidly follow all their evil consequences. To the powders above, we add at night, about ten grains of calomel and one of ipecac, or if we dare, ten grains of Dover's powder. In all cases, purgatives of the most bland kind should be selected. If the calomel prove inefficient by the morning, we employ an enema, and give castor oil, or the following—

℞ Pulv. Rheub. gr. xij.
Calc. Magnesia, (best) ℈ij.

Oil Anise, gt. ij.
Spanish Soap, gr. viij.

Mix and divide into two papers, one of which is to be given every three hours, until the bowels are open. We again begin on the calomel and ipecac powders, to procure and keep up, if possible, a moisture on the skin. To assist in this purpose some of the herb teas, or a weak infusion of Serpentaria or Seneka, may often be advantageously brought into use. If, from opening the bowels, there should be any gastric irritation, calomel combined with morphine in doses of one or two grains, or the blue bill in two or three grain doses every three hours, with the occasional use of an effervescing draught. Should this effervescing draught tend to pass off by the bowels, it may generally be prevented by the use of lime water or new milk.

From the foregoing remarks it must not be inferred, that we are opposed to purgatives; on the contrary, we deem them of *essential importance*—because, if the alimentary canal be not free from obstructions, we would not be able to treat this case judiciously. All fœcal matter must be kept cleansed away, to prevent the irritation it is calculated to produce. But if, in the pursuit of this purpose diarrhœa be induced, it must be corrected by the use of appropriate means; as the following—

℞ Powder of Ipecac. and Opium gr. xij.
Acet. of Morphia gr. iij.

Made into twelve powders, and one given every hour. Or if the diarrhœa be excessive, and accompanied with great sudorific exudation—

℞ Acet. of Lead, ℥j.
Sub. Mur. Mercury, gr. viij.
Tart. Antim.
Sulph. Morph. $\overline{a\,a}$ gr. j.

Make eight powders—dose, one every two hours.

Should typhus symptoms appear, we may then add to the above, ℥ss. Sulphate of Quinine. In the former stage, however, revulsion, or suppuration may be advantageously promoted by leeches, cups, stupes, poultices, blisters, to the surface.

Diet. This should, by no means, be neglected. It should be bland, light, simple, easy of digestion, nourishing, and as antiphlogistic as may be, consistently. Mucilaginous and farinaceous articles, as slippery elm, arrow root, Irish moss jelly; or when

needed, calf's foot, isinglass or hartshorn jelly, &c. These may, when prudent, be rendered more nourishing.

Very frequently it will be found that the extremities suddenly become alarmingly cold, and the patient is found in collapse. Here rubefacients, sinapisms, blisters, &c. must be liberally resorted to in order to restore the equilibrium. The colliquative sweats which attend this state should be arrested, if possible, by rubbing the skin with red pepper, brandy and alum; and if necessary, with spirits of turpentine, red pepper, and Spanish flies; or indeed any thing which may be thought useful in arresting this fatal condition. We would suggest in this state, the trial of Jenning's patent steam bath; but our experience does not supply us with any facts relative to its use.

Emetics. We look on these, in congestive fever, as *certainly fatal.*

We will now illustrate the doctrine and treatment we have advanced, by stating a few cases, with their treatment and results.

Case. 1. J. M. K. 28 years of age, good constitution, robust and healthy, when heated by exercise, drank freely of very cold water, which gave slight uneasiness in the stomach and head. During the afternoon was somewhat feverish, and rested badly that night. The next day he rode 20 miles under a very hot sun. We were then called to him, and found his face greatly flushed, pain in the head, eyes wild and injected with blood, bowels had been for several days constipated; pulse full, tense, laborious; breathing laborious; tongue pale red on tip and edges, and a dirty whitish brown colour in the middle.

He was bled to the extent of ℥xvj. on which the pulse became more soft and voluminous. Ordered warm bath and injections of tepid water—also, 20 grs. of calomel and 2 grs. Ipecac. to be assisted, if necessary, after three hours, by ℥j. of castor oil. After six hours had elapsed without dejection, the calomel and ipecac. were repeated, and a table spoon full of oil directed every two hours, to be assisted by injections until the bowels were opened. Under these directions the patient took nearly a pint of oil, in addition to ℈ij. of calomel, without moving the bowels. We next ordered a very large sinapism to the whole of the abdomen, to be kept on until the skin was permanently red. This had not been in application more than five

minutes, before the patient became very uneasy—on continuing it a little longer, however, he manifested a desire to get up, on doing which, he had one of the most copious dejections we have ever seen. This dejection was full of scyballistic matter, was of dark bilious color, and very fœtid. This afforded very great relief. Having no other passage that day, the calomel, ipecac. and injections were repeated, and followed by other purgatives, as rheubarb, soap, magnesia, &c. In the afternoon of the third day from the attack, a sinapism was again applied to the abdomen, with the same happy result as before. The state of the system now became tolerable, and under a simple treatment he appeared to be so convalescent, that we were induced to say that we should discontinue our visits after the tenth day: but urged the necessity of great prudence and caution, as to drinks, diets, and the regularity of the bowels; recommending oil for this last purpose, should a purgative be needed.

On the twelfth day we were again summoned to this patient, who was supposed to be dying. We found him in a colloquative sweat, and diarrhœa, apparently in *articulo mortis*—pulse barely perceptible; tongue covered with a dirty, slimy mucus, and pointed. On enquiry, we found, that after leaving him on the tenth, he partook largely of water melon, which brought on a cholera morbus. After using a variety of domestic remedies for the correction of this unfortunate state of things, he, next morning, took a large dose of *salts*, which was soon followed by the collapse in which we found him. A consultation was called on the case, but he died on the fifteenth day from that on which he indulged in the too liberal use of cold water when overheated.

It may not be amiss to state in this place, that *whenever the tongue is flat and pointed, or round and pointed, be it moist or dry, but more especially if dry, or if dry in any shape, with a dark crust on it, it is a most certain sign that the patient will bear depletion no farther, especially by purging.*

Case 2. This was in the person of the son of a minister of the gospel, who, presuming much on his own superior medical skill, *bled him*, during the chill, and administered a portion of *salts and tartar as an emetic*; and on the following morning, repeated the dose. The consequence of this was death, on the second day, before one o'clock, P. M. We arrived only in time

to witness the last moments of life. Soon after death the body of this most interesting youth was found covered with gangrenous spots, and vesicles filled with dark fluid, evidently the effect of rapid putrescency. The body soon swelled to six times its usual size. Another case occurred in the family of the next neighbour, who also used emetics and the lancet, with the same results. These two cases sufficed to stop these errors of domestic practice, and no other death occurred in the neighborhood during the season afterwards.

Case 3. J. B. about 26 years of age, of melancholic temperament, and good, but not robust constitution, was suddenly taken very ill of this disease, and sent for a practitioner who bled him copiously, and put him on the use of salts and tartar, in small and frequently repeated doses, so as to keep up a constant nausea. The consequence of this course was, an aggravation of all the symptoms, such as an increased burning at the stomach, oppression at the precordia, laborious breathing, haggard countenance, pulse quick, intermitting, and threaded, jactitation, with violent desire for cold water. The patient said he was on fire within. A consultation was called, and it was agreed to give salts both by the mouth and anus, whereon they injected into the patient *a pound and a quarter of salts*, which of course only tended to increase the heat, whilst the patient continued to sink rapidly. On the seventh day of this case, we were called to it in the afternoon, when we found him laboring under all the distressing symptoms above enumerated, with collequative diarrhœa and sweat, passing large, serous, coffee ground-coloured stools. We at once said that recovery was not to be expected. Our first purpose, however, was to arrest the diarrhœa, in which we succeeded by giving at once, a full dose of laudanum, as the best and only hope. We used stimulants, rubefacients, blisters, &c. washed him in brandy, pepper, and alum, and left nothing undone to arrest the onward course of the fatal symptoms: notwithstanding all, however, he succumbed on the second day after our first seeing him.

Case 4. This was a young girl of about sixteen, who, as we were informed, was attended in the usual manner, and whose case had evidently been neglected and maltreated. She had been very ill for about sixteen days before we saw her. Her pulse was soft and voluminous, bowels soluble, skin dry and hot, ex-

cept about the upper part of the chest, back of the hands and forehead, all of which were moist. Her tongue was inclined to be dry, and of a dark brown colour, with sordes about the teeth and gums; respiration natural, but great anxiety about the countenance, with occasional subsultus tendinum; abdomen free from pain on pressure, but there was a decided tendency to typhoid symptoms. We began the treatment of this case by the prescription of small doses of calomel and Dover's powder, and keeping the bowels open when necessary, by injections, supporting the system with stimulants and tonics, such as weak sangaree, mint julep, red pepper tea, &c. It was a very troublesome, obstinate, and difficult case to manage; for it assumed different grades of violence, and so soon as we had overcome one evil, another of more aggravated character supervened. From the first of our seeing her on the fifteenth day, there was a constant tendency of the extremities to become cold about 2 o'clock in the morning; but as the coldness was not sufficient in the first part of our observation to demand particular attention, we omitted the use of revulsives until the patient had arrived at what we thought the blistering point; and when that crisis presented itself, we used the remedies with the happiest effect, and the disease terminated according to our wishes. On the forty second day after the attack, the fever seemed to leave the sufferer suddenly, and the patient acknowledged that she was perfectly unconscious of any thing that transpired during the last four weeks. This fact seemed strange to us, for we had asked no question without obtaining from her a rational and correct answer. Her recovery was very slow. About a fortnight after we had taken leave of the patient, we were again called to examine a tumor immediately over the parotid gland, which, on inspection, we found to be an abscess, which we, at once, opened, when a large quantity of perfectly pure, healthy, straw coloured matter was discharged, and with it, *the entire* parotid gland, (?) in a state of partial decomposition. This gland we examined with great care. Besides the evidence arising from the inspection of this gland itself, we examined the fauces of the same side, and found it always devoid of the usual moisture. Thus have we one instance, at least, of the *parotid gland sloughing out;* nor are we conscious of the like having occurred either before or since. So

far as we are aware, no untoward circumstance has occurred, and the girl is still in the enjoyment of good health.

In case of resorting to venesection, we should keep it up until we make a decided impression on the pulse, or until we are convinced of the impropriety of the practice. But one good bleeding from a large orifice will be productive of more good than two or three small bleedings from small orifices; and when there is much pain in the head, cold cloths, or what is preferable, bladders of cold water, will be found very refreshing to the patient. By such means we hope to arrest the malignity of the symptoms, and prepare the patient for the exhibition of proper remedies, such as we have already mentioned. In no case, however, can we admit of the use of saline or any hydragogue purgatives; as they invariably tend to the production of colliquative sweats and diarrhœa. When we have reason to believe there is mucous inflammation, we have found the following peculiarly beneficial:

℞ Ol Ricin. Opt. ℥j.
Bals. Copaiba. ℥ ss.
Ol. Tart. per delig gtt. iij.
Pulv. Gum Arabic, ʒj.
Sacc. Alb. ʒj.
Aqua Ment, pip ℥ vj.
M. et f. emulsion.

Of this, a table spoon full may be taken every hour or two, as occasion may require.

This preparation of oil almost invariably sets well on the stomach, and is very pleasant to the taste. In its use we run no risk of producing hypercatharsis, or thin watery passages; but if they should ever come on, they are at once to be arrested, by the timely exhibition of full doses of the tincture of denarcotized opium, or the black drop. Nor should we lose sight of the fact, that a great deal depends on a careful attention to drinks and diets.

In the course of the disease, it is not unfrequent, in extreme cases for hiccough to supervene. In such an event, we expect more benefit from the use of tincture of castor in doses of about forty drops every hour, than from all other antispasmodics. On observing the approach of prostration, we order volatile or cam-

phorated julap, or both combined; but in milder cases we prescribe the spiritus mindereri.

The following cases are intended to illustrate this latter course of practice.

Case 5. Several cases occurred on the border of a mill pond, which proved quickly fatal. One however, a young lady, whom we saw, evidently labored under congestion of the lungs, with great oppression of the chest, and difficulty of breathing; pulse very soft and compressible, and not voluminous, and so strong a tendency to prostration, that we deemed venesection impracticable; edges and tip of tongue pale red, and the middle covered with a dirty white fur. In this case we opened the bowels with an enema and a simple dose of castor oil. Slight pains in the bowels, on pressure, below the umbilicus. We then treated the case with small doses of turpentine, calomel, and Dover's powder; with expectorants, such as calomel and squills, brown mixture and infusion of seneka. Under this treatment, all things seemed to progress according to our wish, and as convalescence advanced, we gave tincture of Iodine in a little ginger tea.

The following was our formula.

℞ Iodine. g. x.
Hydriodate Potass, gr. xx.
Aq. Font. ʒj.
Spt. Gall. Vini. ʒvj. m.

Dose, ten drops every three hours, in a wineglass of Seneka tea. Under the use of this the pulse moderately improved, and the patient said she felt better; the tongue began to cleanse, the skin to become moist, and every thing progressed favorably. On the next morning we found our patient quite cheerful, and free from fever. On her manifesting a desire to eat, we gave our consent to the use of some simple articles of diet, as panada, &c. Instead of this, however, the preparation given her was a mixture of molasses, vinegar and water, very sour, and in it, some tough, half baked buiscuit. Of this she partook very freely; the consequence of which was, a sudden suppression of the perspiration and of the catamenia, which happened to be present at the time, and the production of violent pain in the bowels, colliquative diarrhœa and sweat. Late in the afternoon we were called, and arrived only to witness the fatal result of this error in diet; for although warm bath, laudanum, epispastics and sina-

pisms were liberally used, the catharsis continued, and the patient sank into her final sleep at sunrise the following morning, which was on the eleventh day. This was a case which ought to have had a favorable termination, and doubtless, would, but for the impropriety above alluded to. It is astonishing in these cases to see how quickly the tongue will change its aspect, shape and color.

Case 6. This was the case of another young lady who was attacked a few hours after the death of the last named. She was seventeen years of age--great depression of spirits; hysteria; quick and moderately full pulse, and so easily compressible, that we omitted the use of the lancet; bowels constipated for several days; tongue pale red, &c. as in the above case. The bowels were opened by calomel and ipecac. assisted by castor oil, injections, and warm bath. On the operation of these means, a very large discharge of sciballistic matter was evacuated, to the relief of the tenderness, pain, and burning sensation in the bowels and stomach. Pain in the chest and head, dyspnoea and considerable restlessness, with strong inclination to run into a typhus state even now manifested. We then applied large blisters to the chest and epigastrium, cupped the spine, used hip bath every night, applied bottles of warm water to her feet, and ordered sinapisms in the event of their becoming cold, which was the case. Not being pleased with the progress of the case, we advised a consultation, which was had on the seventh day, and by which it was determined to persevere in the use of calomel and Dover's powder, to be assisted with small doses of castor oil. The mucous coat of the bronchia evinced inflammation, small streaks of blood were occasionally observable in the sputa, but this was most commonly a frothy, white, tenacious substance. By accident, the young lady, in attempting to spit, did spit directly into our eye; and if we had had as much soap, salt, or spirit in our eye, it could not have smarted worse. The consequence of this was, a violent ophthalmia, of several weeks duration.

We gave also emulsions, expectorants, and warm teas, and paid particular attention to the secretions and excretions. The sweat had a peculiar kind of sour, disagreeable scent, and the skin was generally cool and clammy, bowels irregular, sometimes confused and sometimes the reverse. From the whole aspect of the case, the prognosis was now unfavorable, and it was

considered that the case must terminate fatally. Tinct. of Iodine, and infusion of Seneka, and stimulants and tonics, were tried in vain. On the eleventh day the case took a most unfavorable turn; violent diarrhœa, with cold, clammy sweat supervened. These could not be controlled, and she sunk into collapse, and expired on the fifteenth day at sunset.

This case made the fourth death which had occurred in this family, on the border of the mill pond, in less than one month.

Case 7. This was the case of an interesting little boy, who was attacked with the usual symptoms of congestive fever—had been treated with antimonials, purges, &c.; diarrhœa supervened. The first physician failing to attend, we were called, and found the little sufferer in a state of collapse, with clammy sweat, coldness of surface, and literally covered with petechia and vibices, which filled with a semi-transparent fluid. So extensive was this state of the surface, that there was scarcely a place where the skin would not slip. Ordered sinapisms, and milk punch: but death occurred three hours after our arrival. We were astonished, when we came to shrowd the child, (for this melancholy duty devolved on us, in consequence of the illness of the rest of the family,) at the extent of the desquamation effected in so short a time, in this case. We consider *the fatal termination of this case arose from the error of treating it with "cooling powders," as they are called—Rush's Antimonial Powders, instead of calomel and Dover's Powders.*

Case 8. This case was somewhat anomalous in its character. The subject was a mulatto boy eleven years of age. We had, in the same family, a negro man under treatment, according to our usual practice in such cases. He had been sinapised, blistered, &c. and was, to all appearance, doing well, when he was suddenly seized with a profuse diarrhœa, which could not be arrested, and he died on the eleventh day. His owner became violent, and accused us of neglect, and of killing the negro, although we had carefully avoided all purgatives which could have occasioned a diarrhœa. But the diarrhœa was, and *came on as a natural consequence*, in the case; or, more properly speaking, *such cases have a strong tendency to run into such a diarrhœa.* But to the case of the boy. He was very ungovernable, and it was with difficulty that he could be made to take the most simple and tasteless medicines. In his case there

was this peculiarity: he had very frequent spasms of the lower and upper extremities, and occasionally great tormina of the intestines. The tongue was as usual, and there was tenderness of the abdomen, evinced on pressure, with burning in the stomach. With the violence of the disease, and the obstinacy of the patient, it was found no easy matter to please both him and his master; consequently, another physician was unceremoniously called, and as unceremoniously took charge of the case. From all we could learn, he adopted the same views of treatment which we had: differing only in the manner of carrying out. The patient recovered.

Case 9. We were called to see a negro boy about sixteen years old, and found him perfectly comatose; skin dry and cold, and his pulse barely perceptible; and bowels constipated. We put him into a warm bath, and gave him an injection of strong turpentine soapsuds, with a table spoon full of spirits of turpentine, and two of castor oil. We then sinapised and blistered extensively, and ordered that, so soon as he could be aroused, to give calomel and ipecac. powders. During the night he had a good and copious passage, which was said to have afforded considerable relief. In the morning we found him much warmer, and with less stupor. We continued the powders, and ordered half a table spoon full of castor oil at night. The tongue was, as usual, red on the edges and tip, and covered in the middle with a dirty whitish fur; great burning at the stomach; some pain in the bowels and chest; some congestion of the liver. The oil purged freely, and next day, the tongue was very pointed and dry, and the skin yet dry and somewhat cool. We gave infusion of seneka, and calomel and Dover's powder in small doses. From the pointed state of the tongue, we were convinced that purging should be most carefully avoided. By pursuing the above practice, and giving a small opiate at night, in the course of a fortnight he recovered, without any untoward symptom; but his convalescence was tardy.

Case 10. We were called in consultation to Mrs. W. E. and found her in a cold clammy sweat, hurried respiration, anxiety and restlessness great, soreness of the bowels on pressure, burning in stomach, and sense of oppression in the chest. The bowels were moderately open that day, though she had been freely purged the day before. We advised extensive blistering, and

small doses of calomel and the comp. powder of ipecac. and opium, with instructions that, if the bowels were not open by ten o'clock, A. M. next day, to give a *tea spoon full* of castor oil; but unfortunately a colliquative diarrhœa came on during the night, and the next morning we found her passed all hope of recovery. She died that day. We have very little hesitation in attributing her death mainly to the use of antimonials and Seidlitz powders, early in the spell; for she was young, strong, healthy, robust, and of excellent constitution.

Case 11. Mrs. B. had been several days confined to bed with morbilli, but treated herself by domestic remedies. We were called to her in the month of August, during the warmest weather we have ever experienced. We found her in a small close room, with all the doors shut, and covered in bed with no less than *six large blankets and two or three bed covers.* So dense and confined was the atmosphere in the room, that we were almost suffocated when we entered it. Her pulse was very much hurried, breathing laborious, and bowels constipated,* not having been open for the last three days. There was some cough, great pain in the head, chest, liver, side, and bowels, with great tenderness on pressure, just below the umbilicus. The tongue was red at the tip and edges, and covered in the middle with a dirty white fur, and attended with great restlessness.

From the history of the case, we were induced to conclude that the whole of the mucous tissues and surfaces were in a high state of inflammation and congestion. We commenced our treatment by gradually ridding our patient of the many bed clothes with which she was covered, and admitting fresh air by opening one window and a door at a time, and recommending the patient to a more comfortable apartment. So soon as the excitement produced by the circumstances above mentioned, and the hot teas taken for the eruptive disease, had somewhat subsided, and the patient become relieved by these means, we proceeded to bleed her, as she had enjoyed excellent health, and a fine constitution. We took about ʒ xvj. of blood, which exhibited appearances of very high inflammation. This bleeding gave very great relief. We then ordered fifteen grains of calomel, and six of ipecac, which, during the night, produced *only one*

* The patient had used two bottles of Bateman's drops.

evacuation, and that one, by no means large. The next morning we found our patient a good deal better, and all the symptoms improved. As the bowels had not been sufficiently opened, and were somewhat painful, we ventured to give a dose of Seidlitz powders. Being detained by other professional engagements, we did not arrive until about four o'clock the next afternoon. During this absence a colliquative diarrhœa had supervened, and another practitioner was called, who was said to have given a volatile julap. When we arrived we found our patient in a state of most perfect collapse, covered with a cold clammy sweat, and so profuse that it was impossible to wipe the skin dry. Every five or ten minutes large serous dark bilious stools were passed. Nothing had been done to arrest the diarrhœa. The pulse was then almost imperceptible. The tongue was pointed and dry. We stopped the purging by a large dose of laudanum; but neither blisters nor sinapisms could effect revulsion to the surface, and the patient died that night.*

This case affords us another instance of the injurious and ruinous effects of using, in congestive fever, saline purgatives, without giving very strict attention to the effect produced. The tongue at four P. M. was very pointed and dry—a certain sign of excessive purgation.

We cannot blame ourself for giving the Seidlitz powder in this case, because this was not, strictly speaking, a case of what may be termed congestive fever; and yet, very many of the symptoms were the same. It was, as will be recollected, a case of morbilli, and in all cases of this disease, so far as we have known, saline purgatives are considered admissible.

Case 12. O. W. A. aged twenty three, of fine lively disposition and excellent constitution, and who enjoyed an uncommon share of good health, was attacked in the night with violent pain in the head, back, side, chest, and bowels; pain on pressure below the umbilicus, and also in the hepatic region; pulse moderately full, and somewhat tense; skin hot and dry; oppression in chest, and breathing somewhat laborious: a *little moisture* on the upper part of the chest, about the neck, on the back of the hands and on the forehead; great burning at stomach, sour eruc-

* The morbillous eruption was completely suppressed during our attendance; but when this suppression took place we know not.

tations, and excessive thirst. This attack was ushered in with a distinct chill.

We ordered venesection to ʒ xvj. and gave calomel and ipecac. and oil, and injections of warm water to open the bowels which were constipated. These purgative means produced a very *large* stool, which gave great relief. Having now a very fair way opened, we began our treatment by giving small doses of calomel and Dover's powders, alternated with calomel and ipecac. in small and frequent doses. The urine being passed with great pain, and also being very high coloured, we used a suppository of opium and camphor in the rectum, to allay the irritation or strangury, sooner than could be effected by means taken by the mouth. In order, at the same time, to purge the kidneys, we gave Spt. Nitri Dulc. in an infusion of Seneka, with very happy effect—the urine soon assuming its natural color and being voided without pain. Under this treatment the skin also became moist, and pleasant to the feel: all the symptoms readily gave way, and on the thirteenth day we left the patient, free from fever, and from all disease, except a slight uneasiness in the liver, for the relief of which we left blue pills, to be taken every night and morning, until the gums manifested slight mercurial action. Knowing him to be very volatile and thoughtless, we were very particular in urging prudence in the use of diets, drinks, and exposure. But no sooner was he out of our immediate care, than he began to exercise a perfect contempt for our parting advice. In short, after all imprudencies in diet, exercise, &c. he sat on the cold damp ground, and drank copiously of cold water, when extremely heated by a long fatiguing walk, by which his perspiration was suddenly suppressed. and a chill consequently produced, with great pain in the bowels. and great swelling and hardness and pain of the liver. A dose of salts, which he was induced to take, produced a profuse diarrhœa, attended with all its evil consequences, and he died on the second day.

Case 13. This is the last case we shall give. The subject of it was a little girl of about six years, and was the patient of another physician who, in consequence of illness at the time was compelled to omit his visits. We found the child laboring under congestive fever, with the usual symptoms. When about to make our prescription, the former physician arrived; and not

desiring a conference on the cure, we retired, leaving it in his hands, and remained silent spectator. Antimonial powers were, as we anticipated, administered—giving at the same time the opinion, that the child would soon be well. We then left, not without the opinion that the antimonial powders should be avoided, and catamous revulsives, with calomel and Dover's powder used in their stead. Our worst fears were fully verified by the death of the little sufferer the next day. We are decidedly of the opinion that this child should, and would have recovered, had it been treated on the plan which we suggested above.

From the above observations and cases, it is apparent, that congestive fever, as it is called, is a disease of a most obstinate character, and dangerous nature, and difficult to manage—that it is, in its first stage, *evidently inflammatory*, and therefore, requires great skill, prudence, judgment and caution, to treat it successfully—and that medicines of the most simple nature *only* are required to effect that purpose. It appears also in these observations of cases, evident, that the mucous membrane of the intestines is the chief seat of this disease ; but that other mucous membranes, as well as other internal organs are also sometimes involved. We could have given many other cases, but their great similarity renders it unnecessary. Being engaged in country practice, we have had no opportunity for making autopsic examinations ; we hope, however, that those who have such opportunities, will thoroughly investigate the subject, and favor the public with their views, thence derived, of this formidable disease.

We do not presume that we have, in this communication, presented any novelties, or shed new light on the subject of congestive fever. Our only motive has been to give a view of the practical facts as they have occurred under our observation, and those views of treatment which we have found beneficial, or injurious. Should this prove serviceable to humanity, even in a very limited degree, we will feel amply rewarded for our trouble.

We would not be understood to inculcate the idea, that all saline purgatives are to be uniformly proscribed as ruinous ; for we could adduce cases in which they were useful, and some in which these alone afford any relief. Why it is that in congestive fever, emetics should be so signally prejudicial, whilst in

other congestions they are so beneficial, we are not prepared to say. We wish to remark, relative to a very common practice, that of giving a large dose of calomel, followed by a drastic or a saline purgative, that in no case of congestive fever can we justify it—as we have, to the extent of our experience, observed the very uniform inefficacy, or immediately injurious tendencies of such a course in congestive fever.

Part II.—REVIEWS AND EXTRACTS.

A Memoir on the Life and Character of Philip Syng Physick, M. D. By J. Randolph. M. D. *Am. Jour. Med. Sci.*

We trust that no apology will be deemed necessary for occupying so large a portion of our pages, with the following extracts from Dr. Randolph's biographical sketch of the Father of American Surgery. He was an honor to his country, and a benefactor of his kind—and the history of the life of such a man can never fail to afford rich materials for profitable reflection. It never fails to teach those who are entering upon a scientific or professional career, that talent, even of a high order, always finds it necessary to call to its aid untiring industry, and unwavering perseverance, to enable it to secure lasting and deserved fame. We regret, with Dr. R., that the extreme modesty of feeling which Dr. Physick possessed, prevented him from furnishing many facts which would have rendered his biography as complete as the world would desire. Notwithstanding these difficulties, the biographer from his long intercourse and intimacy with Dr. P. has been enabled to furnish a most interesting sketch—extracts from which, we proceed to lay before our readers.

Philip Syng Physick was born in Philadelphia on the 7th of July, 1768. His father, Mr. Edmund Physick was an Englishman, and was characterised for possessing strong mental powers, with which were united strict integrity and considerable knowledge of the world. Previously to the separation of the United States from Great Britain, he held the office of Keeper of the Great Seal of the Colony of Pennsylvania; and subsequently to the Revolution he took charge of the estates belonging to the Penn family, and served as their confidential agent. Doctor Physick's mother was a most estimable, pious woman, who was blessed with a strong intellect, and

evinced throughout her life, great judgment and decision of character.—The Doctor never ceased to feel and express, the greatest filial love and reverence for these honoured parents. He frequently declared, that he was convinced that whatever was most useful and excellent in his character, was attributed to the early lessons and impressions which he imbided from them.

By such parents as these the greatest care and attention would naturally be bestowed upon the education of their children. Fortunately his father had succeeded by great industry and attention to business, in accumulating a property which, in those days, was looked upon as considerable; and being thus in possession of ample means, he was enabled to carry out fully the plan of education which he designed for his son.

In doing so Dr. Physick informed me that his father was influenced by a degree of liberality very unusual in that, or indeed in any age. Double fees which he uniformly transmitted to the teacher testified the great importance which he attached to a liberal education, and the value which he thought should be set upon the sources from which it emanated. This was not only intended for an encouragement to the instructor to use his best endeavours on behalf of his pupil, but because the donor believed the charges for tuition at that day were not a fair equivalent for the services rendered.

Mr. Physick placed his son, when eleven years of age, in the academy belonging to the Society of Friends, in south Fourth street, under the tuition of Robert Proud. At this period Mr. Physick resided in the country, on the banks of the Schuylkill, several miles from the city, at an estate belonging to the Penn family. To facilitate the education of his son, he boarded him in the city, in the family of the late Mr John Todd, the father-in-law of the present venerable Mrs. Madison. Even at that early age the subject of our memoir exhibited strong indication of those well regulated habits, order and method which adhered to him so closely throughout his life. Every Saturday after school broke up, he was allowed to go to his father's residence in the country, where he remained until the following Monday morning.—He then not unfrequently was obliged to walk into town, and sometimes through most inclement weather. Notwithstanding this, he always presented himself at school exactly at the opening. His teacher was so much gratified with this extraordinary punctuality, that he took pleasure in holding him up as an example to other boys, who though living in the vicinity of the school, were too apt to be remiss in making their appearance at the proper hour.

Young Mr. Physick remained at this academy until he entered the collegiate department of the University of Pennsylvania. He then passed through the usual course of studies prescribed in that institution, and took the degree of Bachelor of arts in May, 1785. I am not aware that any thing remarkable occurred during the period of his collegiate studies.—That he was a diligent and exemplary student cannot for a moment be questioned. It is well known that he was particularly succesful in acquiring a thorough and intimate knowledge of the classics, of which he retained sufficient, amid all his engagements, to be able to translate them with facility, to the time of his death.

In June, 1785, he commenced the study of Medicine, under the superintendance of the late Dr. Adam Kuhn, well known as the pupil of Linnæus, and a most distinguished and successful practitioner, and then Professor of the Theory and Practice of Medicine in the university of Pennsylvania. Of the particular motives which influenced young Mr. Physick in the choice of this profession I am unable to speak. It does not appear that he at that period evinced any strong predilection for this department of science. Probably he was in a great degree governed by the wishes of his father; and so strong were his feelings of filial obedience that I am very certain that he would at any time readily have yielded his own wishes to those of his parents. The following anecdote is traditionary in the family. His father, whilst handling a knife, had the misfortune to cut one of his fingers; and the

wound proved to be so severe that he was obliged to engage the services of a medical friend. Upon one occasion his son begged of him to be permitted to apply the necessary dresssings and bandage to the finger: his father consented, and was so much surprised at the great skill and dexterity which his son displayed in making the applications, that he determined to make him a surgeon.

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Dr. Physick was remarkable through life for feelings of the most acute and susceptible nature. It may be truly said of him that he possesed a soul feelingly alive to the miseries and sufferings of others. He could not himself support pain with an ordinary degree of fortitude, and it is undeniable, that he was extremely unwilling to inflict it upon others. This tenderness of feeling, which existed strongly in the days of his youth, continued in full force as long as he lived, as I shall have occasion to show during the progress of this memoir. He used frequently to declare at this period of his life, that he never could be a surgeon. Little was he aware, that he was destined to afford a complete illustration of the position, that the practice of medicine and surgery, so far from hardening and rendering callous the feelings, has a direct contrary tendency, and serves pre-eminently to soften and refine them. His example, as well as the result of our whole experience upon this subject, demonstrates that for a man to become a great and good surgeon, it is absolutely necessary for him to possess to the fullest extent, the best and kindest feelings of our nature.

The following incident, which occurred to Dr. Physick, and which was in fact characteristic, may not be deemed uninteresting. Soon after he commenced the study of medicine, it was announced that an amputation would be performed upon a certain day at the Pennsylvania Hospital. His preceptor, Professor Kuhn, wished him to witness this operation, but understanding perfectly well the peculiar temperament of his pupil, he advised his father to accompany him; and fortunately too, inasmuch as Dr. Physick became so sick during the operation that it was necessary that he should be led from the amphitheatre before it was concluded.

Dr. Physick continued his medical studies under the superintendence of Professor Kuhn, for three years. In those days it was customary for the student of medicine, previously to obtaining the honours of the doctorate, to go through a much more extensive course of reading than is now deemed necessary. By the direction of his preceptor, Dr. Physick read through most diligently and faithfully, many voluminous works of the older medical writers, some of which, if not absolutely obsolete at the present day, are only used as works of reference. We have abundance of evidence, that even at that early period of his life, Dr. Physick evinced the most resolute determination to qualify himself by every possible means, for assuming a most useful and honourable standing in his profession: and there cannot be a question but that he must have gleaned from amidst this great mass of laborious reading, much valuable information, which he subsequently applied to an excellent purpose.

Dr. Physick's whole deportment during his pupilage was so perfectly correct and satisfactory, as to merit the entire approbation of Professor Kuhn: and it is well known, that Dr. Physick always cherished feelings of the warmest affection and regard for his venerable preceptor.

In addition to the instruction which Dr. Physick received from Professor Kuhn, he attended at this period the medical lectures delivered in the University of Pennsylvania. He did not, however, graduate in medicine in that institution. The opportunities for the acquisition of medical knowledge offered by the schools and hospitals of this country, then in its infancy, were too limited to satisfy either his conscience or his ambition. He could not convince his mind that his knowledge of medicine was sufficiently enlarged to warrant him in assuming the deep and important responsibilities attendant upon the practice of a profession which involved

the lives and happines of his fellow creatures. For the completion of his education, he entertained an ardent desire to visit Great Britain, and to avail himself of the advantages which were afforded by the great schools and hospitals of London and Edinburgh. His father happily coincided with these views, and determined upon accompanying his son to Europe. Accordingly they embarked in November, 1788, and arrived in London in January, 1789.

Dr. Physick's sole object in going abroad was to acquire medical information. He had no desire to partake of the gaieties and amusements of an European capital. I repeat, with him the grand consideration was the acquisition of knowledge: to this he applied himself with the most ardent devotion, and never permitted amusements of any kind to turn him aside from its pursuit.

Fortunately for Dr. Physick, his father's connections in London were such, that he was enabled to introduce his son to some of the most learned and polished society, of that great metropolis. An intercourse of this kind created for him an influence and gave him opportunities by means of which his cherished views were considerably promoted. All who ever saw Dr. Physick must have been struck with the exceeding dignity and courteousness of this manner. For this no doubt he was principally indebted to nature, though it must have been improved and confirmed by his association with the elevated society which he enjoyed whilst abroad. By means of this same influence Mr. Physick succeeded in securing the consent of Mr. John Hunter, then one of the most celebrated anatomists and surgeons of the age, to receive the subject of our memoir under his immediate care and tuition.

Dr. Physick considered this as the most important era in his professional life. He early became convinced of the extraordinary advantantages which he might derive from this connection with Mr. Hunter, and proceeded accordingly to devote himself with the most ardent zeal to the study of practical anatomy and surgery. By dint of constant and unwearied application to his studies, aided also by a course of unceasing and unitiring dissections, he soon made rapid advancement in the attainment of his objects, and what was also of much consequence, secured to himself the approbation and esteem of his great master. Mr. Hunter, in fact, was so well pleased with the zeal, industry, and correct deportment, of Dr. Physick, that the took pleasure in acknowledging him as a favourite pupil, and bestowed upon him, with the most unreserved confidence, the full benefit of his advice and experience. During this period Dr. Physick attended regularly the lectures delivered by Mr. John Clark and Dr. Wm. Osborne on Midwifery.

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Dr. Physick continued to prosecute his studies with the most exemplary perseverance and idustry, under the immediate superintendance of Mr. Hunter, throughout the year 1789. On the first of January, 1790, he was appointed House Surgeon to St. George's Hospital for one year, the usual period of that service in the institution. This appointment he owed exclusively to the patronage and influence of Mr. Hunter. The advantages of such a situation to the student of medicine, in facilitating his acquisition of practical knowledge and skill, were of the most important character; and were so well known as to cause the place to be sought after by numerous applicants, most of whom, from the circumstance of their English birth alone, it might be supposed, could have had an influence which would have rendered them successful competitors against a foreigner for the place. Here were exemplified in the most happy manner, the important advantages which Dr. Physick derived from the favorable impressions which Mr. Hunter had imbibed respecting his general worth, his talents, and his acquirements. These considerations induced Mr. Hunter unhesitatingly to exert the whole of his influence in behalf of Dr. Physick, with what effect has been stated.

A few months after this period, Dr. Physick had so severe an indisposition, that Mr. Hunter became alarmed about him, and was on the eve of insisting upon his return to America. This attack, no doubt, was principal-

ly owing to the laborious life which he led, and the close confinement to which he subjected himself. Providence, however, for its own wise and beneficent purposes, thought proper to restore him to health, to the great delight and gratitude of his parents and friends.

It was during the period of his remaining at St. George's Hospital, that Dr. Physick acquired a vast deal of that surgical skill and dexterity which laid the foundation of his subsequent greatness. Having his whole time occupied in administering to the wants of such unhappy objects as were suffering from the effects of accidents or disease; being constantly engaged in applying the necessary bandages and dressings to fractured bones, dislocations, wounds, and injuries of every description, and seizing hold, as was his invariable custom, of every such opportunity of making himself minutely acquainted with the most perfect manner of performing these services, he soon became remarkably expert in all his manipulations, and acquired a degree of experience which increased greatly his stock of practical knowledge. He indeed exhibited a degree of neatness and dexterity in the application of bandages and dressings never excelled probably by any other surgeon.

During the period of his services in this institution, he learned also the manner of constructing and contriving several kinds of instruments and apparatus, which he, subsequently, was the first to introduce into this country, to the great benefit of our art.

An anecdote frequently related to me by Dr. Physick, connected with his early appointment to St. George's Hospital, I may be pardoned for mentioning here, notwithstanding it has already been promulgated from another source. His success in obtaining this situation caused some slight degree of dissatisfaction on the part of some of the disappointed applicants, who conceived that their claims for this situation were stronger than his. In consequence of this, Dr. Physick perceived that they evinced uncommon curiosity respecting his manner of discharging his duties, and were disposed to scrutinise his actions with the greatest strictness. A short period after commencing his services, a patient was admitted into the hospital with dislocation of his shoulder; the head of the humerus being lodged in the axilla. Fortunately the accident was quite recent. It so happened that at the time the man was admitted, the whole class were in attendance at the house. They, of course, were exceedingly anxious to witness the manner in which the reduction would be effected, and Dr. Physick was well aware that his method of restoring the bone to its natural position would be severely criticised. He directed the patient to be seated upon a high chair, and then proceeded to examine the injured shoulder, questioning the man as to the manner in which the accident had happened. Whilst making these enquiries, he placed his left hand in the axilla, and taking hold of the lower end of the humerus with his right hand, he made all the extension in his power, then suddenly depressing the elbow of the patient, he dislodged the head of the bone, which glided instantaneously into the glenoid cavity.

In relating this incident, Dr. Physick never assumed to himself much merit for his success, but rather ascribed it, in a great degree at least, to the favorable nature of the case. His characteristic modesty, however, induced him to underrate his services; his success was doubtless principally owing to that unrivalled address and dexterity of which he subsequently proved himself to be so complete a master. The treatment of this case produced the most happy influence in promoting the interest and comfort of the doctor during the remainder of his stay in the hospital. He stated that from that time forward he always enjoyed the uninterrupted regard and respect of the medical class.

In January, 1791, the period for which he had been elected to St. George's Hospital having expired, he quitted the institution, carrying with him the warmest testimonials, from its proper authorities, of his medical qualifications, and also of his general good conduct. They went so far as

to declare, that instead of considering him to lie under any obligations to the institution, they considered the institution indebted to him for the many benefits he had conferred upon its unhappy inmates, and for the useful results which had been produced by his singular zeal and abilities. He now received his diploma from the Royal College of Surgeons in London.

Soon after leaving St. George's Hospital, Dr. Physick received from Mr. Hunter a mark of respect and esteem, which was in the highest degree gratifying to him, and more particularly so as it furnished conclusive evidence of Mr. Hunter's entire confidence in his professional skill and attainments. Mr. Hunter invited him to take up his residence with him, to become an inmate of his house, and to assist him in his professional business; he also held out inducements to him to establish himself permanently in London.

Notwithstanding the tempting nature of these offers, and the great advantages which Dr. Physick might have derived from accepting them, it did not comport with either his own designs, or those of his father, that he should exile himself from his native country. In accordance with the plan previously laid down for the completion of his medical education, he was to visit Edinburgh, in order to graduate in medicine in the University of that city. He, however, gratefully accepted Mr. Hunter's invitation to reside with him until this period should arrive; and accordingly he remained with Mr. Hunter, and assisted him, not only in his professional business, but also in the prosecution of his physiological experiments, and the making of anatomical preparations, until May, 1791, when he took his final leave of London. I may notice that his father had, previously to this period, returned to America.

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Immediately after his arrival in Edinburg, Dr. Physick entered with his usual ardour upon the prosecution of his studies. He attended very diligently the medical lectures delivered in the University, visited constantly the Royal Infirmary, was a careful observer of the practice pursued in that institution, and witnessed all the operations there performed. In May, 1792, having complied with all the requisitions demanded by the University, he obtained the degree of M. D. The subject of his thesis was apoplexy; and in compliance with the established regulations, it was written in the Latin language. The original manuscript of this essay, which he first wrote in English, is now in my possession, and bears the most satisfactory evidence of having been prepared with a vast deal of careful attention.

To show the familiar knowledge of the Latin language which Dr. Physick possessed, I may relate the following anecdote. It is well known that the examinations for a medical degree in Edinburgh are conducted in Latin; and that there are many applicants for the honor, who, from not possessing a sufficient knowledge of that language, are compelled to have recourse to the aid of a class of men termed *grinders*, whose occupation consisted in preparing students, by a system of drilling, which should render them competent to reply to such questions as were likely to be put to them. It so happened that, a short time previous to the examinations, Dr. Physick was in company with a fellow student from this city, and in reply to some allusion made by his companion to these grinders, the Doctor stated that he should not seek their aid, but that he was determined to rely upon his own knowledge of the language to carry him safely through. His companion expressed much surprise at this statement, seeming to consider it as a vain boast on the part of Dr. Physick; and he intimated his doubts of the Doctor's capabilities, inquiring whether he meant to say that he possessed a sufficient knowledge of the Latin to enable him to carry on a conversation in that language. Dr. Physick satisfied him completely, by instantly addressing him in Latin, and continuing for some time to converse with him in that tongue.

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Dr. Physick returned to his native country in September, 1792; and commenced the practice of his profession in Philadelphia. His office was situ-

ated in Mulberry street near Third. That Dr. Physick entered upon his practical career under the most favorable circumstances, will, I think, be readily admitted. I have already shown that, in addition to his own extraordinary qualifications, he had enjoyed the most ample opportunities of acquiring knowledge from sources distinguished alike for their exalted character and superior excellence. Nature also rendered her best aid for fitting him pre-eminently, by all external advantages, for the successful accomplishment of his objects. His personal appearance was commanding in the extreme. He was of a medium height; his countenance was noble and expressive; he had a large Roman nose; a mouth beautifully formed, the lips somewhat thin; a high forehead, and a fine penetrating hazel eye. The expression of his countenance was grave and dignified, yet often inclined to melancholy, more especially when he was engaged in deep thought, or in performing an important and critical operation. Dr. Physick rarely indulged in excessive mirth; he was, however, far from being insensible to playful humor, and on such occasions his countenance would be lighted up by a benign smile, which altered entirely the whole expression of his features. His manners and address were exceedingly dignified, yet polished and affable in the extreme; and when he was engaged in attendance upon a critical case, or in a surgical operation, there was a degree of tenderness, and at the same time a confidence, in his manner, which could not fail to soothe the feelings and allay the fears of the most timid and sensitive.

The introduction of a young practitioner of medicine to the notice of the community, is proverbially slow; and, not unfrequently, before he can inspire a sufficient degree of confidence to lead to his employment, a length of time is requisite which, in some instances, produces bitter disappointment, and occasionally, even utter hopelessness and despair. As might have been anticipated, there were but few professional calls made upon Dr. Physick during the period of the first year after he had established himself in this city; and it is highly probable that, notwithstanding all the advantages of which he could boast, he would have been obliged to exercise an enduring degree of patience for a considerably longer period, were it not that in the summer of 1793, Philadelphia had the misfortune to be visited by that awful calamity, the yellow fever. It is not necessary in this place to give an account of the destructive ravages caused by this epidemic. The most ample and detailed description of its origin and progress, with all its concomitant circumstances, has been furnished by one of the brightest luminaries of the age; one who was a most prominent and efficient actor in the tragical scene; whose disinterested patriotism, brilliant imagination, and splendid acquirements, endeared him to the hearts of his countrymen, and who invariably evinced himself to be the warm friend of Dr. Physick. Need I add the name of Dr. Benjamin Rush?

The occurrence of the yellow fever afforded to Dr. Physick his first opportunity of proving to his fellow citizens, his entire devotion to his professional pursuits, his utter disregard of all personal considerations which might interfere with the discharge of his duties, and the fearless intrepidity with which he exposed himself to danger, in order to contribute to the safety of others. As a means of preventing an extension of the disorder by removing, as far as possible, from overcrowded situations those who were attacked by it, and also to afford an asylum and the most efficient treatment to such as were destitute, the Board of Health, in August, 1793, established the yellow fever hospital at Bush Hill, and Dr. Physick, having offered his services, was elected by them physician to the institution. He immediately proceeded to the performance of his duties with singular ardor and ability; and during the time he remained in the hospital, rendered services which were acknowledged to be of the most important character, and which served to secure to him the approbation and esteem of the community at large. Dr. Physick himself did not escape an attack of the fever. It however yield-

ed to treatment, although I heard him declare, but a short time previous to his death, that he did not think his constitution had ever completely recovered from the shock which it then received.

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After leaving the hospital he removed to the city, and gave his undivided attention to his professional engagements. In the year 1794, Dr. Physick was elected, by the managers of the Pennsylvania Hospital, one of the surgeons to that institution. This period was the dawn of his great surgical fame and usefulness. The reputation sustained by the Pennsylvania Hospital for a long series of years, not only for the amount of benefits which it has conferred, but also on account of its excellent administration, are so well known as to render superfluous any encomiastic notice of it on my part. That Dr. Physick contributed largely to the support of its character and reputation, can be readily shown by a record of his services. It must be admitted, however, that his appointment to the hospital had a considerable influence in promoting his success, and leading to an extension of his business. The situation enabled him to add greatly to his stock of experience, and afforded him ample opportunities of perfecting himself in the operative department of his profession. I have already stated that in his manual procedures he exhibited the utmost degree of neatness and dexterity. Dr. Physick possessed, pre-eminently, all the qualifications requisite for a bold and successful operator. His sight was remarkably good; his nerves, when braced for an operation, were firm and immovable; his judgment was clear and comprehensive, and his resolutions once formed, were rarely swerved from. In addition to these he owed much to his thoughtful and contemplative cast of character, which induced him to deliberate and reflect intensely upon all the circumstances of his case, and to make elaborately, beforehand, every preparation which might become needful in the performance of his task.

In order to appreciate fully and correctly the amount of contribution made by Dr. Physick to the department of Surgery, it is important to call to mind the imperfect condition of the art in this country, at the period of his commencing his professional career. It is well known that the principles of science which should govern the treatment of many disorders were at that day very imperfectly understood. It is true that there were some members of the profession, possessed of great merits and learning, who devoted themselves especially to the cultivation of surgery. These gentlemen were quite competent to the performance of what were then considered the capital operations in surgery; still it must be confessed that no one of them ever acquired the necessary degree of skill and pre-eminence to create an unlimited confidence in his abilities. In consequence of this there was no head, no rallying point in surgery, an appeal to which, when once made, would be regarded as decisive. We cannot feel surprised at the comparatively insignificant position which the science of surgery then held, when we reflect that, prior to the appointment of Dr. Physick, surgery was not taught in this city as a separate and distinct department. The professorships of anatomy and surgery were combined in the University of Pennsylvania, and the duty of teaching both branches devolved upon one individual. Under these circumstances, it would have been extremely unreasonable to expect an efficient course of instruction when it is well known that the usual period allotted to a course of lectures upon either department, as now separated, is confessedly too limited.

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In the year 1794, Dr. Physick was elected one of the physicians to the Philadelphia Dispensary; and during the period he held this appointment, he performed his duties with the strictest fidelity. He subsequently was appointed one of the consulting surgeons to this institution, and retained the ituation till the time of his death.

From a reference to Dr. Physick's papers, it appears, that his profession.

al engagements increased very considerably in the year 1795. About this period, his prospects of establishing himself in practice became exceedingly flattering. During the year 1795, he commenced keeping a journal of the most remarkable and interesting cases which occurred in his practice, more especially of a surgical character. This journal is continued up to the year 1810, although in consequence of the multiplicity of his engagements about this period, we have to regret, the number of cases inserted is very considerably lessened. The first case recorded in the note book is that of a lady affected with blindness from cataract. In this case, he performed the operation of extraction of the opaque crystalline lens, with complete success, and restored his patient to sight.

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The year 1800, formed a most eventful one in the life of Dr Physick. During this year he formed a matrimonial alliance with Miss Elizabeth Emlen, a highly gifted and talented lady, and daughter of one of the most distinguished ministers of the Society of Friends. By this marriage he had four children, two sons and two daughters, all of whom are now living.

In the year 1800, a request was made to Dr. Physick in writing, by a number of gentlemen engaged in attending the medical lectures delivered in the University of Pennsylvania, that he would lecture to them on Surgery. Among these gentlemen, who so fully appreciated his extraordinary qualifications, was included our present pre-eminently distinguished Professor of the Theory and Practice of Medicine, Dr. Chapman.

No man could feel more deeply the solemn responsibilities attendant upon such an enterprise than Dr. Physick. After mature deliberation, however, he determined to accede to their request, and this may he considered as the commencement of his labors as a lecturer.

The following anecdote, related to me by the doctor himself, will exemplify the ardor and zeal with which he entered upon the performance of his duties, and it illustrates also most happily the great advantages which may be derived from a word of encouragement and approbation, coming from a source in which entire confidence is reposed.

After preparing the lecture introductory to its course, he committed it to memory. Among the persons invited to be present at its delivery, was his valued friend, Dr. Rush. The scene was a trying one to Dr. Physick. It was the first time he had ever publicly addressed an audience. I have been informed, however, that he acquitted himself extremely well. At the close of the lecture, Dr. Rush stepped up to him, gave him his hand, and congratulated him upon his success, saying to him very emphatically, "Doctor, that will do—that will do—you need not be apprehensive of the result of your lecturing--I am sure you will succeed" Dr. Physick never forgot Dr. Rush's kind manner to him on this occasion. He assured me that it exerted a considerable influence in strengthening and confirming his resolutions to persevere. It is needless for me to say that Dr. Rush's predictions respecting Dr. Physick's ultimate success in lecturing were fulfilled to the utmost. Five years subsequently to that period, the Professorship of Surgery was created in the University of Pennsylvania, and Dr. Physick was elected to the chair.

In the year 1801, Dr. Physick was appointed "*Surgeon Extraordinary,*" and also one of the physicians to the Philadelphia Alms-house Infirmary. I am not aware that any appointment similar to the former has been since made in that institution.

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About this period, it may be said that the talents and acquirements of Dr. Physick began to be extensively known and appreciated, not only by the members of his own profession, but also by others. I may mention, that in this same year, (1802,) he was elected a member of the American Philosophical Society: a well merited tribute due to his rising greatness.

This year Dr. Physick devised and executed an operation which forms one of the most beneficial results to suffering humanity. On the 18th of December, he performed, in the Pennsylvania Hospital, his celebrated operation of passing a seton between the ends of an ununited fractured humerus, for the purpose of causing a deposition of callus, and thereby producing the consolidation of the broken bone. The patient was a seaman, who had the misfortune to fracture his left arm, eighteen months previously, whilst at sea; and in consequence of the bones not having united, the limb was rendered nearly useless. At the expiration of five months after the performance of the operation he was discharged from the Hospital perfectly cured. Dr. Physick published an account of this case in the Medical Repository of New York, vol i. 1801; and it was republished entire in the Medico-Chirurgical Transactions of London, vol. v. 1819.

It so happened, that, in the year 1830, I was requested to visit a patient who was lying dangerously ill with remitting fever. A few days after my first visit, in riding past his door in company with Dr. Physick, feeling very uneasy about the condition of my patient, I requested the Doctor to step into the house and give me the benefit of his advice. He complied, and upon entering the sick man's chamber he immediately recognised him as the individual upon whom he had performed the operation which I have just described, twenty-eight years previously. Upon questioning the patient he informed us that the arm which had been broken was quite as strong as his other arm, and that he had never sustained any inconvenience from the operation. The man died; and having obtained permission to make a post mortem examination, I procured his humerus, which I still have in my possession, and regard it as one of the most interesting and valuable pathological specimens extant. At the place of fracture, the two ends of the bone are perfectly consolidated by a mass of osseous matter, in the centre of which there is a hole, through which the seton had passed.

Since the performance of Dr. Physick's first operation, this method has been resorted to with entire success in numerous instances by himself and other surgeons, for the cure of ununited fractures, not only of the humerus, but also of some other bones. That this operation, like all others, occasionally fails, must be admitted; it is, however, generally conceded that it possesses many advantages over the method not unfrequently resorted to, of cutting down to the ends of the bone and sawing them off, recommended by Mr. Charles White, of Manchester.

In describing that process M. Boyer declares it to be "painful, terryfying, and of dubious event." He once performed it on account of a preternatural joint, situated in the middle of the humerus; the limb mortified, and the patient died on the sixth day. Independently of the greater hazard attending this method of operating, it is unquestionably much more painful than Dr. Physick's; and although occasionally it succeeds perfectly, in many instances it has entirely failed.

It is a matter of much surprise and regret, that Mr. Wm. Lawrence, of London, a gentleman distinguished for brilliant talents and extensive learning, in speaking, in his surgical lectures, of the different methods of operating for the cure of ununited fractures, should greatly undervalue the importance of Dr. Physick's operation, and limit exceedingly its successful results. To correct the false impressions which this statement might create, and as an act of justice due to the distinguished inventor of the operation, my friend Dr. Hays gave in his valuable periodical, the American Journal of the Medical Sciences, vol. vii, p 267, a brief summary of numerous cases of ununited fracture successfully treated by means of the seton, collected from various sources. Dr. Physick was extremely gratified at the able manner in which Dr. Hays vindicated the merits of his operation, for the cure of artificial joint by means of the seton.

Dr. Physick's private journal, and also a book of cases, kept by his ne-

phew, Dr. Dorsey, clearly evince that at this period Dr. Physick was occupied in attending to a most extensive and laborious practice. In Dr. Dorsey's note book are recorded the most interesting cases and operations occurring in the practice of Dr. Physick, to which he was a witness. It is exceedingly probable, that during that period there were but few operations performed by Dr. Physick, at which Dr. Dorsey was not present; for in some places he gives an account of important and capital operations performed almost daily by his uncle.

It has always been a subject of deep regret with the profession, that Dr. Physick should have evinced throughout his whole life such an extreme reluctance to the publication of the results of valuable observations and experience. What a fund of knowledge has in this manner been permitted to pass away, which might have been happily applied to ameliorating the miseries of humanity! Strange as it may appear, I unhesitatingly assert, that posthumous fame was not sought after by Dr. Physick. I am well convinced, however, that in the latter years of his life, he regretted very much himself that he had not published more for the benefit of his fellow beings; but at this period his disinclination and habits had become so confirmed that it was impossible for him to change them.

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I have already stated, that at the period when Dr. Physick commenced his professional career, the organization of the medical department in the University of Pennsylvania was so imperfect, that the chairs of Anatomy and Surgery were combined. To remedy this acknowledged deficiency, in the year 1805, the chair of Surgery was made distinct from that of Anatomy, and Dr. Physick was elected, I believe unanimously, Professor of Surgery.

It should be borne in mind, that he had previously, in the year 1800, complied with a request, made to him by a number of gentlemen engaged in the study of medicine, to deliver lectures on surgery. These lectures were in the Pennsylvania Hospital; and he exhibited such positive and satisfactory evidence of his entire competency to the task which he had assumed, that he very soon became exceedingly popular as a teacher, and added greatly to his fame.

It is more than probable that the position which he now held as a lecturer on surgery, exerted no little influence in producing the change which was made in the medical faculty.

I presume it will not be denied that, however great the advantages may have been which accrued to Dr. Physick in consequence of his being appointed Professor of Surgery in the University of Pennsylvania, the institution itself derived equal advantages from his connection with its medical faculty.

It is certain that soon after his appointment, the number of students who resorted to this city to attend the medical lectures, greatly increased; and although I freely admit that there were many co-operating circumstances, his efforts in behalf of the school being seconded by colleagues who possessed talents of so refulgent a character that the light shed from them has not yet passed away, still it is worthy of record, that the zenith of Dr. Physick's fame and usefulness was the period at which the University of Pennsylvania attained the acme of its reputation.

Having shown that Dr. Physick's efforts as a private lecturer were attended with the most entire success, we can readily believe that he was quite prepared to enter upon the duties of his new appointment. Inasmuch, however, as this situation opened to him a more extensive field of action than he had previously cultivated, he felt himself called upon to make renewed exertions.

It is almost impossible to conceive of the great amount of labour which he was in the habit of performing daily, during this period of his life. He has frequently told me that it was his custom, throughout the winter months, to rise at four o'clock in the morning. This hour being too early to disturb a

servant, he was obliged to arrange his own fire. He would then sit down to his desk and prepare his lecture for the day; after which he would dress himself, and then take his breakfast, and leave his house between eight and nine o'clock, to attend to an extensive and laborious practice. In addition to all this, he discharged his duties as surgeon to the Pennsylvania Hospital, and to the Alms House Infirmary. He used often to remark, that in order to obtain entire success as a practitioner of medicine, it was necessary to work hard. He told me that in London this idea was conveyed by the emphatic expression "Doctor or Mr.——— is *working* his way into business." It will be conceded that no portion of his success ever came to him gratuitously; on the contrary, he made laborious exertions to obtain it.

Dr. Physick's manner as a public lecturer was extremely grave, dignified and impressive. His style was clear, simple and chaste. He was uniformly careful never to say too much. His choice of language was remarkably good, and he possessed the happy faculty of communicating knowledge agreeably and clearly to a degree which I have never known surpassed. Perhaps one great reason for this was, that he never undertook to instruct others upon subjects which he did not clearly comprehend himself. He attempted no display of oratory; neither did he permit his reason and imagination to run wild in the regions of theory and fancy. He found much better employment for his mind in constantly studying the realities of life, and in reflecting upon the best methods of promoting the welfare of his fellow creatures. His lectures were carefully prepared and written out. He did not at all approve of extemporaneous lecturing; as he thought that in lecturing upon scientific subjects, and more especially such as involved the lives and happiness of our fellow beings, no man had a right to place so much confidence in the strength of his memory as is implied in that practice.

Dr. Physick's course of lectures on surgery was eminently valuable, from being founded principally upon his own practical knowledge and experience, and also from his discarding all mere hypotheses; besides which his lectures derived an additional attraction and importance from the circumstance that his reputation for stern integrity and strict veracity was so well known and established, that whenever he asserted facts to be true, they were implicity believed.

As a letter-writer he was exceedingly exemplary and peculiar. I regret very much not having the privilege of inserting a few of his letters in this memoir. In general they were remarkably brief and pithy. He was excessively annoyed at receiving, and being obliged to read letters of an unmeaning and unnecessary length. It was the same with respect to books. I have often heard him complain of the hardship of being obliged to read through a volume of two or three hundred pages, to get at ideas which might have been embodied in ten or twenty.

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In the winter of 1813–14, Dr. Physick suffered from a severe attack of typhus fever. On this occasion his illness was so extreme, that his medical friends despaired of his life for some time. He gradually convalesced, but his constitution did not entirely recover from the shock which it then received. From this period he never enjoyed what might be called uninterrupted health. His powers of digestion became exceedingly impaired, whence ensued a train of most unpleasant dyspeptic symptoms. He became subject also to frequent attacks of catarrh, and his susceptibility to this condition increased to such an extent that he was obliged to observe the most rigid precautions in order to guard against it. His method of treatment when laboring under a severe cold, required confinement to a warm room; and in fact he accustomed himself to a degree of heat in his apartments which to many others was almost insupportable. In addition to this he always employed the strictest antiphlogistic treatment, as regarded his diet and remedial agents. I think that he injured himself, and in a measure pro-

duced the very enfeebled and prostrated condition of his system which attended him during the latter years of his life, by the excessively reducing system of treatment to which he had recourse.

The small amount of food of which he would sometimes permit himself to partake, is almost inconceivable; and this for many days together. I frequently expressed to him my regrets respecting the meagre diet he was using; and upon one occasion I dissented soundly from the propriety of such a course of dieting. He replied that he regretted it very much himself, and that he wished he could indulge in a more generous living, but that he had accustomed his stomach for so long a time to abstinence from rich food, that it was impossible now to make any change.

About the period to which we are alluding, he began to experience certain unpleasant symptoms, indicative of a diseased condition of the heart, and which, eventually, terminated in organic affection of that organ, and doubtless laid the foundation for the hydropic complaint of which he died.

Among the complicated forms of disease to which he was subjected, must also be enumerated a nephritic disorder, with calculous concretions in the kidneys. It is impossible for language to describe the pain and agony which he frequently endured from the passing of the small calculi through the ureters into his bladder. Upon one occasion, about ten years previous to his death, I knew him to be for near two hours without any pulse perceptible at the wrist, in consequence of intense suffering, caused by the lodgment of a small calculus in the ureter. It remained fixed in this situation for some days, and grew to the size of a small pea; it finally passed into the bladder, and was discharged a few minutes subsequently through the ureter.

The practical knowledge and experience which Dr. Physick derived from the careful and minute attention which he bestowed not only upon every department of his profession, but also, I may say, upon each separate and individual case of disease which came under his notice, enabled him to suggest numerous modifications and improvements which have exerted the happiest influence in elevating the condition of our science. It would be impossible, in a communication of this nature, which has already exceeded the limits originally proposed, to give even a brief outline of the many invaluable inventions for which we are indebted to him. In order to do this, it appears to me, that it would be necessary to review almost every professional act of his life; because there was no form of disease of which he undertook the management, in which he did not exercise a tact and treatment peculiarly his own. I do not mean to say that in every case he prescribed a new remedy, and one original with himself—my meaning is, that he invariably modified either the dose, or the preparation, or the time of its administration, or the method of its application, according to his own proper and peculiar views.

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I have already shown that his health was considerably impaired; and it is probable, that about this period he must have been deeply sensible of his increasing infirmities, inasmuch as he thought proper, in 1816, to resign his situation as Surgeon to the Pennsylvania Hospital. He had received his appointment in 1794; consequently, he served the institution twenty two years. Some time previous to this he had resigned his situations in the Philadelphia Dispensary, and in the Alms-house Infirmary.

In the year 1819, Dr. Physick resigned his chair of Surgery in the University of Pennsylvania, and was transferred to that of Anatomy, which had become vacant the preceding session by the death of his nephew, Dr. John Syng Dorsey.

The premature death of the lamented Dorsey, plunged Dr. Physick into the deepest affliction, and had the effect of creating a melancholy gloom, which overshadowed the remainder of his existence. Dorsey, of all others, was fitted to cheer and solace the declining years of his uncle. He had been regularly educated under the immediate inspection and superintendence

of Dr. Physick—had imbibed from him his early lessons of wisdom and knowledge, and at a more matured period of his life, fully adopted the principles and doctrines of his preceptor. Advantages like these, aided by talents of a brilliant and comprehensive order, enabled Dorsey at an unusually early period of his life, to assume a most elevated and distinguished rank in his profession. Relentless death, however, seized upon his prey, whilst in the midst of his honors and his usefulness.

It was always a source of deep regret with Dr. Physick's immediate family and friends, that his comforts in the evening of his days, and whilst labouring under physical infirmities, should be so greatly interrupted by translating him from the chair of Surgery to that of Anatomy. We had positive assurances from himself, that the change was contrary to his own wishes and inclination: how far the interests of the institution to which he belonged may have been promoted by it, I do not mean to inquire. My own impression is, however, and I believe I am not singular in the opinion, that if he had continued in the chair of Surgery up to the period when he retired from the University, it would have numbered in its catalogue of students many more than it has ever shown.

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In the year 1821, Dr. Physick was appointed Consulting Surgeon to the Institution for the Blind.

In 1822, the Phrenological Society of Philadelphia elected him its President.

In 1824, he was chosen President of the Philadelphia Medical Society. He held this situation until the time of his death.

In 1825, January 6, he was appointed a Member of the Royal Academy of Medicine of France; so far as I know, the first American who ever received that honour.

In 1831, in consequence of his declining health, he felt it incumbent on him to retire from the active duties of the University; and accordingly he resigned his situation as Professor of Anatomy. In acknowledgment of the extraordinary services which he had rendered, in elevating the character of the school, and in promoting the advancement of medical science, the institution, upon accepting his resignation, conferred upon him the highest honor in its power, by electing him unanimously "Emeritus Professor of Surgery and Anatomy."

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In October, 1831, Dr. Physick performed the operation of lithotomy on Chief Justice Marshall. This case was attended with singular interest, in consequence of the exalted position of the patient, his advanced age, and the circumstance of there being upwards of one thousand calculi taken from his bladder. It is well known that for several years previous to this period, Dr. Physick had declined performing extensive surgical operations. He felt somewhat reluctant to operate upon Chief Justice Marshall, and offered to place the case in my hands. Taking all the circumstances into consideration, and knowing well that this would be the last time he would ever perform a similar operation, I felt desirous that he should finish with so distinguished an individual; and accordingly urged him to do it himself. Upon the day appointed, the Doctor performed the operation with his usual skill and dexterity. I do not think I ever saw him display greater neatness than on that occasion. The result of the operation was complete success.

It will be readily admitted that, in consequence of Judge Marshall's very advanced age, the hazard attending the operation, however skillfully performed, was considerably increased. I consider it but an act of justice due to the memory of that great and good man to state, that in my opinion, his recovery was in a great degree owing to his extraordinary self-possession, and to the calm and philosophical views which he took of his case, and the various circumstances attending it.

It fell to my lot to make the necessary preparations. In the discharge of this duty, I visited him on the morning of the day fixed on for the operation, two hours previously to that at which it was to be performed. Upon entering his room I found him eating his breakfast. He received me with a pleasant smile upon his countenance, and said, "Well, doctor, you find me taking breakfast, and I assure you I have had a good one. I thought it very probable that this might be my last chance, and therefore I was determined to enjoy it and eat heartily." I expressed the great pleasure which I felt at seeing him so cheerful, and said that I hoped all would soon be happily over. He replied to this, that he did not feel the least anxiety or uneasiness respecting the operation or its result. He said that he had not the slightest desire to live, labouring under the sufferings to which he was then subjected; that he was perfectly ready to take all the chances of an operation, and he knew there were many against him; and that if he could be relieved by it he was willing to live out his appointed time, but if not, would rather die than hold existence accompanied with the pain and misery which he then endured.

After he had finished his breakfast, I administered to him some medicine: he then enquired at what hour the operation would be performed. I mentioned the hour of eleven. He said, "Very well; do you wish me now for any other purpose, or may I lay down and go to sleep?" I was a good deal surprised at this question, but told him that if he could sleep it would be very desirable. He immediately placed himself upon the bed and fell into a profound sleep, and continued so until I was obliged to rouse him for the operation.

He exhibited the same fortitude, scarcely uttering a murmur throughout the whole procedure, which, from the peculiar nature of his complaint, was necessarily tedious.

Chief Justice Marshall survived this operation some years, and finally died of a disease of an entirely different character.

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In November, 1836, he was elected an honorary fellow of the Royal Medical and Chirurgical Society of London. The conferring of this honour was a full acknowledgment of his exalted merits, and justly acquired reputation, and he did not affect to conceal the high gratification he derived from it.

I have mentioned in the former part of this memoir that the first case recorded in his private journal is one in which he performed the extraction of the crystalline lens. By a singular coincidence, it happened that the last operation everperformed by Dr. Physick was for cataract, and took place but a few months previously to his death. He, however, never, saw his patient after completing the process; the attack which terminated his existence occurring on the afternoon of the same day.

I ought to mention, by way of apology for his engaging in any surgical operation whilst labouring under such feeble health, that the circumstances attending this case were exceedingly peculiar. The applicant was a foreigner, Dr. Physick had operated upon his eye a year previously, and the gentleman had remained in this city during a whole year for the purpose of having it repeated by him. He consequently felt it incumbent upon him not to disappoint his patient; and he was not the man to shrink from the performance of what he believed to be his duty, notwithstanding, as he informed me, he was well aware that death was impatiently waiting for his victim.

This operation was performed on the 13th of August, 1837. I was present and watched him with the most intense anxiety. He was quite collected and firm, and his hand was steady, though he was labouring under great mental and physical suffering. Whilst witnessing this effort in the cause of afflicted humanity, I felt a melancholy conviction that it would be the final act of his professional life.

From this period his complaint went on increasing in intensity and violence. The symptoms of hydrotorax became developed to a most painful extent, and he suffered extreme agony from oppression at his chest and difficulty of breathing; so much so, that sometimes he became unable to lie down in his bed for whole nights together, but was obliged to stand upon the floor, supported by assistants. In consequence of his increasing illness, his old and well tried friend and associate, Professor Chapman, was requested to visit him in consultation with myself. His malady, however, had become uncontrollable, and it resisted the most strenuous efforts that professional skill and affectionate attention could exert.

Some time previously to his death, anasarca took place; and in consequence of his remaining so much in the erect position, his lower extremities became enormously swollen and distended with serum. The integuments at length gave way, and openings formed, which finally ulcerated and became gangrenous.

The Father of American Surgery expired without a struggle, on the morning of the 15th of December, 1837, at twenty minutes past 8 o'clock.

"He gave his honours to the world again,
His blessed part to heaven, and slept in peace."

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It must be admitted that, by the community at large, Dr. Physick's private character was but imperfectly understood. This was owing to the habits of perfect seclusion which he contracted, and to the slight intercourse, other than professional, which he permitted himself to enjoy with his fellow citizens. It must not be supposed, however, that this isolation arose from moroseness of character or want of inclination to mingle with society. A satisfactory explanation may be afforded by the entire self-abandonment with which he devoted himself to his professional engagements. This formed one of the most striking and remarkable points in Dr. Physick's character. History probably cannot show an example of a more pure and absolute devotion to professional pursuits than he exhibited.

For the reasons just mentioned, he was supposed by some to be stern and unfeeling, and wanting in the kinder sympathies of our nature. There could not be a greater misapprehension. His feelings were tender and susceptible in the extreme; and could those persons who entertained an opposite opinion have been admitted to closer and more intimate relations with him, they would have acknowledged the great injustice they had done him in such a surmise. Many instances might be cited, were it expedient to occupy the necessary time, to illustrate Dr. Physick's extreme tenderness of feeling. At an early stage of his professional career, he performed a few experiments upon living animals, with the view of determining some physiological points. This formed a subject of regret to him as long as he lived; and he could not divest his mind of the idea that he had been guilty of useless as well as wicked acts of cruelty.

Previously to his performing important surgical operations, his feelings were so harrowed up, and he experienced so much anxiety, that it was the custom of his family to endeavor to prevail upon him to execute such operations as speedily as possible, in order to relieve his mind.

To those who only saw Dr. Physick as the bold and unflinching operator in surgery, his character might have appeared cold and unfeeling, and they might have thought him,

——"Unlike to other men,
A snow-crown'd peak of science, towering high;"

but to the few who knew him in his private circle the veil was withdrawn. It was in the gentle charities of domestic life, as the tender and affectionate parent, or the sympathising friend, that his true character became revealed,

and his heart was felt to be keenly alive to the kindest and softest emotions of which human nature is susceptible. He never appeared so happy as when surrounded by his children and his family; and indeed I feel assured that this formed one of the greatest consolations to him in the midst of his protracted sufferings.

In his intercourse with his professional brethren Dr. Physick's conduct was regulated by the strictest principles of honour and integrity. Whenever he was called in consultation with other physicians, without inquiring how exalted or humble their positions might be, he was scrupulously careful to avoid saying or doing any thing which could wound their feelings, or prejudice them in the least in the estimation of their patients. He invariably stated his own opinions in a frank and manly manner, and was ever willing to pay due deference to the opinions of others. Upon all occasions he was happy and ready to confer upon his fellow practitioners the benefit of his advice and experience, whether the information desired had special relation to themselves, or to those under their charge. He was far removed above the meanness of interferring with the patients of others; and whenever he had in his power to render a service to a younger member of the profession, by a word of encouragement or commendation, it was cheerfully bestowed.

It was impossible that a man possessed of a mind of so reflective and contemplative a character as his, should not turn with anxious solicitude to the doctrines of religion, and the contemplation of a future state. Religion constituted, in fact, the most engrossing subject of attention during the latter years of his life. How far he derived comfort and consolation from his religious studies, it is not for me to say. I am very certain, however, that a more pure and ardent seeker after divine truth I never knew. As an observer of the principles of strict integrity and morality, I believe it will be conceded that he was exemplary to a remarkable degree. He, however, arrogated nothing to himself from this source. He expressed to me but a short period previous to his death, that he possessed no merits of his own to give him a claim to salvation. His humility and self abasement upon the subject of religion were extreme; and he was always willing and ready to apply to any source, however humble it might be, provided he thought he could be enlightened and instructed by it.

His course of reading upon theology was very extensive; and unfortunately for him he read many works of a conflicting and contradictory nature. The effect of this upon one who had, during all his life, been in search of indisputable evidences, was to create at times gloomy and desponding views. Yet for very many years of his life he was in the uniform habit of perusing, every morning, a portion of the New Testament; and when, in consequence of his illness and increasing infirmities, he was incapable of so doing, his children were constantly employed in reading this and other works of devotion to him. During his last illness he derived great pleasure and satisfaction from the visits of his friend and pastor, Dr. Delancy; whose kind attentions towards him were unremitting. I feel assured that the hopes and promises of the Christian religion were the greatest sources of consolation to him in the closing hours of his life, and smoothed his passage to the tomb.

Part III. MONTHLY PERISCOPE.

The following case of irritable uterus, we extract from the *Eclectic Journal.* It is full of interest. It affords demonstration of the very general error in practice, of neglecting the thorough investigation of the true cause and nature of the affliction. In such cases, we venture the belief, that in the present state of the profession, where one practitioner would thoroughly investigate and determine the true etiology and pathology of such a case, and treat it accordingly, as John Brown, C. M. of Her Majesty's Victualing Yard at Deptford has done, one hundred would be content to theorise and speculate on a superficial observation of symptoms, and determine on. the existence of some local inflammation or irritation, and medicate the patient for months and years, should she live so long. Cases of the same general character have not unfrequently occurred under our observation; and we have at present under care, a case, of which, the following would be a very accurate description. Such indeed we have almost always found those cases, which are denominated "*irritable uterus.*" We have rarely, if ever, found it the case that the irritability of the uterus was not correctible by treatment on the same views as those taken in this case.

IRRITABLE UTERUS.

To the Editor of the Medical Gazette.

Sir.—I forward for publication in your valuable journal the following case, which appears to me to be an important one, inasmuch as it shows that in the female sex the uterus is sometimes the source of those painful, local, nervous affections that simulate structural diseases in different parts of the body; or at least that remedies which had the effect of restoring that organ to a healthy state, were, in one severe case of the above description, the means by which a cure was accomplished, after every other plan of treatment had been tried in vain.—I am, sir. Your most obedient servant,

JOHN BROWN, C. M.

Her Majesty's Victualling Yard, Deptford, Dec. 24, 1838.

A young lady, who had suffered for a great length of time from pain in her back and partial paralysis of the lower extremities, was brought to London, in the summer of 1837, for the benefit of medical advice. While she was in the country, various plans of treatment were tried for her relief, but without the least benefit; and at the time I first saw her, which was immediately on her arrival here, and about two years and a half after the commencemest of her illness she said that her complaint began with a throbbing in her left foot, which gradually extended up the leg as far as the back, and was followed by severe pain in her stomach and right side, which continued for several hours, and then went off, leaving her in a very languid state; that paroxysms of this kind succeeded each other, at short and irregular intervals, for the

space of eighteen months; that she had often, during the above period, hysterical fits of the usual descriptions; that she often suffered much from pain in the abdomen, particularly around the umbilicus, that a great many remedies had been tried for her relief, but without any good effect;--on the contrary, that the pain in her back at lengh became so constant and severe as to lead her medical attendants to conclude that she was labouring under a disease of the spine, and that she was accordingly cupped, blistered, and kept in the horizontal position for a great many months, but without any benefit whatever.

At the time this patient came to town she could not walk, nor even stand, in consequence of the pain in her back and weakness of her limbs. I therefore carefully examined the spine, but could perceive no mark of structural disease there; indeed the poor girl complained just as much when the skin was merely touched as when very forcible preessure was made upon the vertebræ. Hysterical fits at that time, she said, came on twice or thrice every day. She also stated that when she attempted to sit up, she felt an unpleasant weight in the lower part of her belly, with a sensation of bearing down, and that she had always pain and difficulty in passing the fæces and urine. On examination *per vaginam*, which I considered to be necesssary, in order to enable me to ascertain the real nature of the case, I found that the uterus was very low down; and upon mentioning this circumstance to the patient, she admitted that organ had several time partially protruded beyond the external parts. It was also in a highly irritable state; indeed the mere touch of the finger gave great uneasiness, and brought on one of the most violent paroxysms of hysteria I ever witnessed. There were occasionally, too, a profuse leucorrhœal discharge; but as the displacement appeared to me to be the point which required to be first attended to, in order to remedy that, I put a piece of sponge into the vagina, but so great was the irritability of the parts that its presence there could not be borne, and I was consequently obliged instantly to remove it. Under these circumstances, conceiving that the affection of the back and paralysis of the limbs were, in some way or other, connected with the irritable state of the womb—a state which the patient said had existed from the commencement of her illness—I directed strong anodyne injections to be frequently thrown into the vagina, which, in time, produced an excellent effect. Astringent injections were next employed with advantange; and, at last, a solution of the nitrate of silver was in this way used, which, by degrees, diminished both the leucorrhœal discharge and the irritability of the uterus, and in the end entirely removed them. As soon as this change in the state of the parts was effected, the usual treatment for the prolapsus was had recourse to, and the girl then began rapidly to improve.

But during the time that this local treatment was being followed, the constitution was not neglected. The physical powers of the system in this case were very low. The patient had a weak pulse; her appetite was small; her muscles soft, flabby, and relaxed. She suffered much from coldness of her hands and feet; and, as hysterical paroxysms at the commencement of the local treatment were very frequent, anti-spasmodic medicines were prescribed, particularly the tincture of assafœtida, to which, however, she at first strongly objected, on account of the nauseousness of its fœtor, but, after having taken it for a short time she either acquired a taste for it or experienced so much relief from it use, that always, upon the least symptom of the approach of a paroxysm, she flew to the loathsome draught with avidity, and drank it off without any apparent reluctance. Tonics, too, were from the first prescribed. The compound infusion of gentian, the disulphate of quinine, the sulphate of copper, and the tincture of muriate of iron, were all by turns, taken in proper doses, with benefit. The cold shower-bath was also had recourse to; and, although the patient's constitution was certainly very weak, the shock was followed by no unpleasant effects; on the contra-

ry, she always experienced, after using the bath, a comfortable glow of heat over her whole body, with a considerable increase both of bodily and mental energy.

Under the above treatment the patient gradually recovered; indeed as soon as the irritable state of the womb was removed, she began to walk about, and in the course of a few months she could accomplish a distance of three or four miles with but very little fatigue. She, however, remained about a year under my care, and in July last returned to her parents, who reside at Plymouth; from whence she now writes to me, and informs me that her health is good, and that, notwithstanding the season of the year, she frequently takes a cold salt-water bath with decided benefit.

MEDICAL INTELLIGENCE.

We give the following interesting extracts from a letter to the editor, from Dr. P. F. Eve, Professor of Surgery in the Medical College of Georgia, who is now in Europe, revisiting some of the most celebrated hospitals. We are happy to learn that he has made a safe and remarkably short passage. Prof. Eve is expected to return in time for his professorial duties, at the ensuing session.

PARIS, 13th May, 1839.

Dear Doctor—Providence has again thrown me in the midst of another French revolution. I arrived on Friday last; just four weeks from our Medical College; and on yesterday most serious disturbances commenced in the city between the populace and the civil and military authorities. About sixty of the wounded have already arrived at the Hôtel Dieu. I have had the pleasure of meeting several of the graduates of the Medical College of Georgia. * * *

I visited La Charité, went around the wards, and attended the lecture of M. Velpeau, who, afterwards, operated on a cataract. M. Velpeau is now about forty years of age; of ordinary French stature; has a fine head, and great command of words with good enunciation. It is told of him that he was originally a blacksmith, and at the age of twenty one could neither read nor write; he is now a striking example of what may be effected by industry and perseverance. At present, no one stands higher in these head quarters of medical science, for surgery, for general medical lore, and for his brilliant concourse, than M. Velpeau.

The most interesting case in the Clinique this morning was, that of a woman who, in lifting a mattrass on a beadstead, fractured the ulna. M. Velpeau said he could not positively assert this was a genuine case of fracture

produced by muscular action alone ; for the woman may have been diseased. He then entered into the cases of fracture produced by muscular contraction, which he properly arranged under two orders. 1st. Those in which the bones or the patients were diseased ; and 2nd. Those whose osseous system was not only unaltered by disease, but whose constitutions were robust and healthy at the time.

Notwithstanding several surgeons had denied the possibility of fractures under such circumstances, M. Velpeau stated that he had, himself, seen several, besides the many previously recorded. If the case under consideration be one of fracture of the ulna from muscular effort, it will be the first one recorded.

I am informed that M. Velpeau is very successful in the application of his apparatus, (a needle or pin under the diseased vein, and a twisted ligature upon its two extremities, so as forcibly to compress the vessel between the two,) for varicosed veins : a case of which I had the pleasure of witnessing this morning.

There is nothing very novel in surgery at present in Paris ; and still less in medicine. More are, I understand, now engaged in illustrating old facts, and establishing those already advanced, than in searching for new ones. The club foot is still the fashionable topic of the day, in the way of operations. M. Brechet is, I believe, the only one that has any thing new, and which, by the bye, is sufficiently novel to merit attention. He is engaged in marking the results of a uniform temperature upon the healing of wounds, as amputations, &c. His apparatus is a spirit lamp, enclosed with the limb, and a thermometer indicates the degree of heat, &c. to which the part is subjected.

14th May. I have just returned from visiting La Pitié and Hôtel Dieu this morning. At the former Lisfranc did not appear. It is said he is so much of a republican, that whenever he can aid his fellow citizens, he neglects his wards in the Hospital. I saw here M. Serre only.

At the Hôtel Dieu, there was a great crowd. Thirty of the wounded have already died, and there are about sixty who are now dressed in this Hospital, upon whom amputations and other operations have been performed.

I had the pleasure of seeing in operation one of M. Brechet's apparatus already described. Instead of a spirit lamp to keep up an uniform temperature, around the amputated stump, a syphon and *tepid water* were employed, instead of *cold*, which, as you are aware, has been for some years recommended.

I had the pleasure of meeting here Dr. Harlan, of Philadelphia, and also of seeing Louis, Roux, &c.

MEDICAL INSTITUTION OF YALE COLLEGE.

We have received the annual Circular of the Medical Institution of Yale College, for the term of 1839-40.

At its last commencement, this Institution conferred the Doctorate on seventeen young gentlemen, and the Licentiate on two.

The whole number of graduates since 1813 is 439 : that of licentiates 293.

According to the statutes of the state, candidates for license to practise physic and surgery, are required to have the same qualifications as those for the doctorate. The licenses are granted by the President of the Connecticut Medical Society, on the recommendation of the Board of Examiners, who is, *ex officio*, President of the Board. The only difference in eligibility to the doctorate and the licentiate is, that the latter may be granted after one course of lectures only, whilst the former requires two. This arrangement, whereby time, and not talent is made to constitute the only difference between these benefits, is a wholesome one; for it is only suited to young men of merit, without pecuniary means; but prevents effectually that delicacy of feeling which must shrink from conferring all the rights of a practitioner on the individual in granting a license, whilst he is unworthy of the doctorate; and for the refusal of which he may be called on at a future day to exercise the proscriptive power of the black ball. Here, in the first place, the faculty constitute but one half of the Board of Examiners; and even if they alone constituted the Board, their work before them is perfectly plain; they have to determine the same qualifications in the candidate for license, as they have in that for the doctorate; and to be fully prepared to approve of the capacities of the candidate; the difference of the time engaged in the study of medicine alone, being the sole ground on which the doctorate is withheld.

The course in this Institution commences with October, and terminates on the 22nd of January.

The faculty consists of the following gentlemen.

Rev. Jeremiah Day, D. D. L. L. D. President.

Benjamin Silliman, M. D. L. L. D. Professor of Chemistry, Pharmacy, Mineralogy, and Geology.

Eli Ives, M. D. Professor of the Theory and Practice of Physic.

Wm. Tully, M. D. Professor of Materia Medica and Therapeutics.

Jonathan Wright, M. D. Professor of Principles and Practice of Surgery.

Timothy P. Beers, M. D. Professor of Obstetrics.

Charles Hooker, M. D. Professor of Anatomy and Physiology.

We recognize a good proportion of fine talent in this faculty, particularly, in the names of Silliman, Tully, and Hooker, with whose characters alone we have acquaintance.

MEDICAL DEPARTMENT OF TRANSYLVANIA UNIVERSITY.

The Annual Circular for this Institution.

The following is the organization for the present year.

B. W. Dudley, M. D. Professor of Anatomy and Surgery.

J. C. Cross, M. D. Professor of the Institutes of Medicine and Medical Jurisprudence.

N. R. Smith, M. D. Professor of the Theory and Practice of Medicine.

W. H. Richardson, M. D. Professor of Obstetrics and Diseases of Women and Children.

T. D. Mitchell, M. D. Professor Materia Medica and Therapeutics.

R. Peter, M. D. Professor of Chemistry and Pharmacy.

J. M. Bush, M. D. Adj. Prof. Anatomy and Surgery, and Dean.

A highly commendable liberality on the part of the City Council of Lexington, in bestowing on this Institution the sum of forty five thousand dollars, enables it to promise a splendid medical hall for the future accommodation of the Class. The total number of the Class, during the last course was 211: of whom 106 were from Kentucky, 25 from Tennessee, 19 from Alabama, 10 from Mississippi, 8 from Virginia, and 7 from Georgia. The numbers from several other States were from one to five.

At its last commencement, this institution conferred the degree of Doctor of Medicine on fifty one candidates, and honorary degrees on three other practitioners of Kentucky.

It is pleasing to see a state and a city in which a medical institution is located, take the interest in its success which has been manifested by Kentucky and Lexington. Such institutions are generally left too much to struggle on their slow route to success, under every difficulty, which the extraordinary efforts and sacrifices of the individuals who project them cannot obviate, or lapse into insignificance.

SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] AUGUST, 1839. [No. 11.

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

An Essay on the questions—Are there any direct sedatives? And if there are, what is their mode of operation? Read before the Medical Society of Augusta, by JOSEPH A. EVE, M.D.

BEFORE attempting to answer this question, it will be necessary to determine the proper signification of the term sedative. Most medical writers apply this word to depressant agents, to all means that diminish action or reduce excitement, whether the principle on which their effects are produced be negative or positive; that is, whether they act by withdrawing stimulants, as by the abstraction of blood, of caloric, &c., or by directly diminishing the excitability of the system, and rendering it less susceptible of the impression of excitants, without any depletion or the withdrawal of any stimulus. But we conceive it highly important that a distinction be made between negative and positive depressants, inasmuch as they operate on very different

principles, and are applicable to the remediate management of very different states of the system and forms of disease.

We will consider the term *sedative* applicable only to those agents that depress excitement, restrain action, and allay pain, by an immediate effect upon the excitability; and will, in the ensuing remarks, restrict the signification of the term to those means, which, leaving in full force and operation all those excitants upon which excitement depends, whether normal or morbid, reduce it by lessening, neutralizing, subtracting, or in some way depriving the system, or some part of it, of its excitability or capability of being excited.

The state induced by the action of these agents is, properly, designated by the term sedation, which is directly opposite to irritability; the latter signifies too great susceptibility to the impression of irritants and excitants; the former, on the contrary, expresses an inaptitude to be affected by them.

Having now stated fully what we understand by the term sedative, we will proceed to examine and to answer the first question, "Are there any direct sedatives?" This is indeed a difficult question, upon a most recondite and obscure subject—a subject that has given us more embarrassment and perplexity than any other in the science of therapeutics. No author whose writings we have seen, appears to entertain clear and correct views of it, or to have treated it in a satisfactory manner: we have returned from all our researches unsatisfied: if some clouds have been removed, their removal has only afforded light for the discovery of difficulties still unanswered or unanswerable—light has been evolved to render the darkness more visible. It is necessary that our knowledge of the mysterious laws and hidden springs of life should be much more profound, before the nature of sedative action can be fully and perfectly comprehended, and the whole truth be revealed in its simple and unmantled loveliness.

Two of the best essays, we have seen, bearing on the subject of sedatives, appeared some years since in the American Journal of Medical Sciences, one by Dr. Hodge, of Philadelphia, on Sedation, and the other by Dr. Geddings, of Charleston, on Debility. These authors do not attempt to explain the modus operandi of sedative agents, but by their arguments, and by facts

and observations adduced, they prove very conclusively that there are such agents, and describe very satisfactorily the effects produced by their action.

Dr. Geddings, after speaking of negative depressants, makes the following remarks, "Perhaps a more important variety of asthenia or debility, is that which is produced by the operation of contrastimulant agents, or those causes which tend by their peculiar properties to produce a direct depression of the powers of life, independently of any negative property or quality." "Brown (he continues) laid it down as an axiom, that all agents that are capable of affecting the organization, produced their results by a process of stimulation. In this opinion, however, he was not sustained by subsequent observations. Indeed experiments have satisfactorily demonstrated, that there are an immense number of agents that produce an impression directly opposed to that of stimulation, or that enfeeble or depress the vital forces, by an operation that is direct and unpreceded by any excitement."

Many medical writers, besides Brown and his disciples, deny the existence of direct sedatives, and contend most strenuously that their supposed operation involves a contradiction or a logical absurdity. It is difficult to conceive how any thing can act, without being active and producing action: whereas the effect of a sedative is not action, but the reverse, the suppression or reduction of action. They assert that the agents, termed sedatives, are primarily stimulant, and that the sedative effect is only the consequence of the previous action of stimulants which exhaust the excitability and thus leave the general system, or the organ or part acted on, in a state of depression: that is, they lose sight of sedation altogether, confounding or identifying it with exhaustion or indirect debility. But we contend that this is a gratuitous assumption without foundation or support; it is merely a subterfuge for our ignorance—a resort to compass a difficulty which we cannot explain. Innumerable observations and experiments have most satisfactorily established the doctrine that many substances exercise a directly depressing effect without any previous excitement.

There are some substances which are complex in their operation, possessing both stimulant and sedative properties which are

manifested either simultaneously, in succession, or upon different organs or parts. But there are some that are wholly sedative in every dose, under every circumstance, and in all modes of administration—this is certainly and most unequivocally the case with hydrocyanic acid, whose depressing influence over the vital power is so decided, that were there no other example in nature, this would be sufficient to afford an affirmative answer to the question proposed.

The subject before us is one in which we are compelled to reason from effect to cause—the nature of the cause can only be inferred from the effect produced. When depression follows the administration of a mean that neither stimulates nor abstracts stimulus, the unavoidable conclusion is, that it must act by diminishing excitability, that is, by a directly sedative effect; for there are only three modes in which depression can be produced, debility from abstraction of stimulus, exhaustion, and sedation.

Every candid physician must admit that there is an almost endless variety of substances, which, taken internally, or applied to the surface, depress the vital powers, and whose effects cannot be explained on any other principle than that of direct sedation; we therefore unhesitatingly reply in the affirmative to the first question proposed, and proceed to examine the second—"What is their mode of operation?"

This is indeed a difficult and perplexing subject—a subject that admits much more of speculation than demonstration.

"Of the several causes that act thus on the animal organism, (Dr. Gedding's remarks,) some produce their effects, as it were, instantaneously, and in a moment extinguish the powers beyond recovery; others act more tardily, and merely produce a gradual diminution of the vital energies. Even a single drop of prussic acid, merely applied to the surface of the eye of a dog, or to the tongue, produces death in three or four seconds, and injected into the veins of an animal, it extinguishes life in an instant, as by a stroke of lightning, leaving the muscles almost entirely devoid of all traces of irritability. All substances possessed of narcotic properties, enfeeble the powers of life, and produce a degree of asthenia which is sometimes alarming, and even fatal. The nervous susceptibility is annihilated; sensation is enfeebled or obliterated; the pupil is widely dilated; the eye

is insensible to light; the mind becomes incoherent, or is overwhelmed with a general stupor or coma; the pulse flutters, or is scarcely perceptible; the respiration is slow and heavy; a general coldness diffuses itself over the body; and death is gradually induced by the overwhelming debility which pervades the organization." The effects of sedatives thus admirably described, almost invariably, in some degree, follow the use of a large dose of opium, tobacco, digitalis, hydrocyanic acid, cicuta, belladonna, &c.; but how these substances operate in the production of such effects is an inexplicable mystery, upon which neither chemistry nor physiology can throw the least light. It does not at all depend on the elementary composition of the substances employed. Some suppose the produce of azote and absence of oxygen essential to the constitution of a sedative; but, with the exception of hydrocyanic acid, all sedatives contain oxygen—and further, and most conclusively against this fanciful theory, one of the most powerful stimulants in nature, ammonia, is devoid entirely of oxygen, being composed of hydrogen and azote, while one of the most decidedly sedative, carbonic acid gas, contains a very large proportion of oxygen and no azote.

With respect to electricity, we believe it to be one of the most important and universal agents in the production of natural and vital phenomena; but a knowledge of chemistry does not declare to us any mode in which sedative substances can affect this subtle fluid so as to depress the powers of life—we have no data on which to reason—the moment we attempt to explain sedative action on electrical principles, our reasoning is nothing but hypothesis, speculation, and groundless conjecture.

As sedatives diminish sensibility and action, and these depend chiefly on the brain, it has been suggested that they act primarily and principally on that organ; but it is asserted, in objection to this opinion, that they act locally on parts to which they are applied, in many instances without affecting the brain at all—and, farther, that some substances produce directly opposite effects on different organs or systems, exciting one and depressing another—emetic tartar inflames the skin and prostrates the action of the heart and arteries—digitalis, tobacco, and many other articles act differently on different organs and systems.

Cullen supposes, "that their operation is upon a matter in

common to the whole nervous system"—" that there is a subtle elastic fluid in the medullary substance of the brain and nerves, upon the motions of which all sense and vital motions depend; and by which, therefore, motions are communicated from every one part to every other of the nervous system." His conclusion is, that sedatives or narcotics diminish the sensibility and action of the system, by lessening the mobility of this fluid. This theory is ingenious, but it is based upon a hypothesis. Who has proven the existence of this subtle fluid pervading the whole nervous system? And it is by no means proven that the operation of sedatives is confined to the nervous system.

Inasmuch as the most prominent effects of these medicines are remarked in the functions of the animal economy, which are dependent on the nervous system, it is inferred by some, and there is much plausibility in the inference, that their action falls principally on the brain and its appendages. It must be admitted that these parts are most conspicuously affected by sedatives; it does not, however, follow as a necessary consequence, that their action falls more directly or forcibly upon them; but it is simply, because they enjoy the highest degree or largest quantum of excitability, and from the functions they exercise, those of animal life, the influence of sedatives, as well as all other medicines, is more obviously and conspicuously manifested, on those, than on organs whose functions are less important.

The result of our experiments, observations, and researches is, that sedatives produce their effects by acting directly on the excitability, or irritability as it is styled by some physiologists, which is a property or principle essential to, and inherent in, all living tissues, though possessed by them in different degrees; as for example, it is greater in the nervous than in the muscular, in the muscular than the cellular, &c. The excitability is also modified in the different tissues and organs, in consequence of which modifications, they receive different impressions from the same agents, whether stimulant or sedative.

We believe that sedatives make a local impression on the part or organ to which they are first applied, which impression is by sympathy or nervous communication extending to other parts of the system, just as stimulation is communicated from the part first impressed to others more remote: many sedatives are also

absorbed into the circulation and through that medium conveyed to the nervous centres, and thence reflected throughout the organism.

As regards the proximate mode of operation of sedatives, or the rationale of the intimate changes produced, we know nothing certain—but do we know any thing more definite with respect to stimulants?

Inasmuch as excitability is not equally diffused throughout the organism, but exists in greater degree in some tissues than others, and in the same at different times, is exhausted by stimuli and re-accumulated after their action is over, there must necessarily be some provision in the animal economy for its re-accumulation and restoration when expended; it is presumable sedatives prevent or suspend this accumulation, preparation, or secretion of excitability, and thus render the system or the organ acted on less excitable, and consequently diminish action; but as to the mode in which this effect is produced, we know nothing.

Sedatives are so valuable and extensively employed in practice to allay pain, reduce inordinate action, and restrain excessive secretions, that every circumstance connected with their operation is, in the highest degree, interesting; but there are difficulties which it is perhaps impossible to explain in the present imperfect state of our knowledge. Gladly would I use my utmost exertions to remove the obscurity that involves the modus operandi of sedatives and of medicines in general, and explain their hidden and mysterious principles and modes of action—but how hopeless the attempt, when the wisdom and learning of ages have availed nothing; and in defiance of the labours of the most gifted of the sons of science, the mystery—the deep, the dark, the inexplicable mystery, still remains! And this mystery will perhaps ever remain shrouded in impenetrable darkness, beyond the discovery of man. But when we reflect how much has been achieved by untiring industry, patient investigation, and laborious application—how many of her profoundest secrets Nature has revealed to the prying eye and importunate pleadings of enterprising genius, may we not anticipate the auspicious day, when some God-like genius shall lift the curtain that veils Nature's deepest mysteries, and reveal to the wonder-

ing world her untold secrets, and explain the essence, forms, modes, hidden springs and principles proximate of action, sense and life!

In conclusion, we have endeavored to examine attentively and candidly the two questions proposed by the Society. The first we have answered in the affirmative. With respect to the second, we have given some of the opinions of others, and advanced our own, but we would be gratified to see a more satisfactory solution.

ARTICLE II.

Mortality in Augusta, during the years 1837 *and* 1838. *Taken from the Sexton's Book, by* L. A. Dugas, M. D.

The writer has on a former occasion* expressed his regret at the very imperfect manner in which the records of the City Sexton are kept; yet for the last two years they have been more imperfect than ever. We are happy to learn that measures are about to be taken to have the subject better attended to in future. It is impossible at present to derive any accurate information with regard to the diseases which prevailed during the period included in our researches. We can, therefore, do but little more than merely to furnish the tables below.

The number of still-births, in 1837, was, whites 12, blacks 10, total 22; and in 1838, whites 9, blacks 12, total 21. These are, of course, excluded from the tables, as never having existed. Of the whites who died in 1837, thirty three were foreigners, (mostly Irish,)—and of those who died in 1838, sixteen were foreigners. The proportion of deaths to the population, estimating this at eight thousand, is, for 1837, one in thirty four; and for 1838, one in forty five.

* Southern Med. and Surg. Journal, vol. 1. p. 650.

Summary of the Tables below.

1837—White males,	80	
" females,	50	
	—130	
Black males,	46	
" females,	58	
	—104	
	---Total 234.	
1838—White males,	74	
" females,	13	
	— 87	
Black males,	57	
" females,	34	
	— 91	
	—Total 178.	

TABLE NO. 1.—DEATHS IN EACH MONTH; WITH THE AGES.

WHITES.

1837.	Under five years	From 5 to 10.	From 10 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	Above 100 years	Total.....
January,	1		2	4	6	2	1	1					17
February,	3			2	2	1	1	1					10
March,				2	1	1							4
April,	5			3	2	1		1					12
May,	3		1	5	4	2							15
June,	1			2	1	1	1						6
July,	6		2	6	1	2							17
August,	5	1		6	1				1				14
September,	1			3		1							5
October,	3		2	2	4				1				12
November,	2	1		3	3				1	1			11
December,	3	1			1	2							7
	33	3	7	38	26	13	3	3	3	1	0	0	130

1838.													
January,	1			1	2								4
February,	1			4	4								9
March,	2			1		2							5
April,					1								1
May,	1	1		1	2								5
June,	7			3				1					11
July,	4	1	1	3	4	1							14
August	2	1	1	2	1		2						9
September,	3	1		3	2		1						10
October,	1			2	1								4
November,	3			1	2								6
December,	1				3	1	3	1					9
	26	4	2	21	22	4	6	2	0	0	0	0	87

TABLE NO. II. DEATHS IN EACH MONTH; WITH THE AGES.

BLACKS.

1837.	Under five years	From 5 to 10.	From 10 to 20.	From 20 to 30.	From 30 to 40.	From 40 to 50.	From 50 to 60.	From 60 to 70.	From 70 to 80.	From 80 to 90.	From 90 to 100.	Above 100 years	Total.....
January,	3	1		1	1	1			2	3			12
February,	2		2			1	2		1				8
March,	4			5	2	2	1			2			16
April,					6		3						9
May,	3		1	4			3	3	1				15
June,	3	1	1	1		1	2		1				10
July,	7			1	1		1						10
August,	2		1	1						1			5
September,	2						1						3
October,					1		1	1					3
November,	2			1									3
December,	3		1	1	2	1	2						10
	31	2	6	15	13	5	16	4	6	6	0	0	104
1838.													
January,	2				1	1			2				6
February,	2			1									3
March,	2	1		3	1			1	1				9
April,	1			2	4	1	1						9
May,	4		1	1		2	1						9
June,	4		1			3		1		1	1		11
July,	8	1	1	1									11
August,	2	1		3	1								7
September,	2	1									1		4
October,	6								2				8
November,		1		1	1				1				4
December,	1	2	2		2			2	1				10
	34	7	5	12	10	7	2	4	7	1	2	0	91

ARTICLE III.

Essays on Exercise. No. I. By P. H. Wildman, M. D. *of Laurenceville, Geo.*

Definition. Exercise signifies, literally, to employ, and as there are innumerable substances in nature, each of which may be employed in a variety of ways, it is obvious that there must be various kinds of exercise. In the present case, I wish to restrict the term to its signification in human physiology and pathology. Exercise then, when thus restricted, signifies to employ the body, and is resolvable into *natural exercise* and *unnatural exercise.*

NATURAL EXERCISE.

Every organ of the human body has a definite and distinct function to perform, in order to give rise and continuance to that state of the system denominated *perfect health.* The act of performing these definite and distinct functions, *in a harmonious manner*, constitutes the natural exercise of the various organs; thus the natural exercise of the brain, is mentation; of the stomach, digestion; of the muscles, contraction and relaxation; of the lungs, respiration; and so on. But we know that mental manifestation is subject to derangement; that digestion may be impaired; muscular contraction and relaxation, spasmodic; and respiration, morbid. These are examples of *unnatural exercise.*

Natural exercise, however, may vary in *degree*, and still be natural in *kind;* thus we have *deficient exercise*, *adequate exercise* and *excessive exercise.* "But" it may be said, "deficient and excessive exercise, frequently gives rise to unnatural, the characteristic of deficiency or excess still continuing, so that here we have a mixture of natural and unnatural exercise, not included in your classification. My answer is, that at the point where the alteration in *quality* occurs, deficient or excessive exercise, properly so called, terminates, and at that point also, unnatural exercise begins—the latter being indeed somewhat modified in its characteristics, by the casual operation of the former.

All vital activity, or in other words, all exercise is the result of an adaptation of sensibility to stimulus; consequently, there

must be operative in the healthy human system, as many specific kinds of sensibility and of stimulus, as there are developed, specific modes of vital activity or exercise. In order more fully to understand this matter, let us go into detail. Sensibility, then, is a vital property which has the sole power of taking cognizance of, and responding to stimuli; it belongs exclusively to nervated matter; *and in the living animal one does not exist without the other.**

It has long been known and acknowledged, that the olfactory,

* It will be observed, that a more extended signification is here given to the term *sensibility*, than it has usually received; but a desire to avoid confounding peculiarities which, owing to the *general anatomical* arrangements and connections of portions of the nervous system, occur in *phenomena*, with peculiarities of the original and intrinsic *properties* of the nervous system, I trust will be considered sufficient grounds to justify the innovation.

The presence or absence of sensibility, is usually judged of, by our being conscious or not, of the conditions or movements of a part. Now our *consciousness* of the conditions of an organ, evidently depends upon the anatomical distribution and connections of the nervous fibres which control its operations. If these fibres extend to the cerebrum, and are connected with the organs of perception in the brain, we shall be *conscious* of the impression of their stimuli, whereas, if they do not extend to, and are not connected with, the brain, we shall necessarily be *unconscious* of it; that, we are *conscious* of the impression of light upon the optic nerve, of sound upon the acoustic, and of odors upon the olfactory: we are *unconscious* of the healthy operations of the stomach, the intestines, the liver and the kidneys. The causes of this difference are readily found, in the anatomical connections of the nervous system.

Sensation is said to consist in impression, transmission, and *perception*. I believe it to consist in impression, transmission, and *their result*---the result always occurring at the opposite extremity of the nervous fibre, to that where the impression has been made. If this extremity be in connection with those nervous fibres which constitute the organs of perception, the latter will be stimulated by the sensation, and the phenomenon of consciousness by this means be developed---if this extremity be not thus in connection, what we call consciousness will not be developed, but some specific phenomenon of the system, the nature of which, so far as this question is involved, will depend upon the connection of the *resultent extremities* of the nervous fibres, *the sentient extremities* of which have been stimulated.

Bichat has already introduced the terms "animal and organic," to express the different sets of phenomena now under consideration, and although objected to by Gall, I think they embody our meaning more perfectly than "sensibility" and "irritability," and are, therefore, as contrasted terms, to be preferred to them. Perhaps *conscious* and *unconscious* sensibility, would be more correct than either. Descartes, Stahl, Cabanis, Cuvier, Blumenbach and Riel, therethere, are right, in stating that sensibility exists without consciousness, though none of them have explained *why* it does so.

the optic, the auditory, the gustatory, the tactile, motory and respiratory, are separate and distinct nerves and sets of nerves, responding to definite and distinct stimuli, and each performing an independent function. The same I believe is acknowledged to be true of all, or nearly all the nerves, of what has been called animal life; but it has yet to be generally understood, that for each definite and distinct function of the body, there is a separate and distinct nerve or set of nerves, each possessing a definite and distinct sensibility and responding to a definite and distinct stimulus.

In the daily and momentary phenomena which recur within the immediate range of our observation, nature has furnished us with keys to many of her surest operations. To observe analytically the most ordinary appearances and phenomena, is the surest method of arriving at important natural truths. Thus Newton discovered that a modification of the same force which impels an apple to the earth, retains the earth in its orbit—from the attention of Galileo, being arrested, by the regular vibrations of a lamp, swinging from the roof of the Cathedral at Pisa, sprang the first instrument which was ever constructed, for the accurate measurement of time. So, by the careful analysis of the functions of a single nerve, we may arrive at a just conception, of the method in which all nerves perform their functions.

I have before stated that all exercise or activity is the result of an adaptation of sensibility to stimulus. The sensibility of the nerve of smell, is adapted to the stimulus of certain odorous particles of matter, and the result of this adaptation is smelling. The sensibility of the nerve of vision, is adapted to the stimulus of light, and the result is seeing. Now, the sensibility of the nerves of osseous deposition is adapted to the stimulus of certain earthly particles of matter contained in the blood, and the result is, the formation of bone. The sensibility of the nerves of biliary secretion, is adapted to the stimulus of certain other particles contained in the blood, and the result is the formation of bile. This law holds good of the whole system, each function having its peculiar sensibility and each its peculiar stimulus.

Let it not be inferred from what has now been said, that I maintain the nerves to be the only active material agents in the body. All that I shall attempt to prove in this respect is, that nervous matter possesses such power, and is so distributed in all

the organs, as to enable it *to direct and control their movements;* other parts of the body being merely the protectors and executive agents of the nervous system.

It now becomes necessary to bestow a few remarks upon the different *degrees* of natural exercise, and as I have before observed, these are three in number—deficient, adequate, and excessive.

Deficient exercise consists in *privation ; adequate exercise constitutes temperance ;* and *excessive exercise, intemperance*—the first occasions *craving* ; the second gives rise to sensations of *comfort* ; and the third to those of *fatigue.*

Craving then is one of the consequences of deficient natural exercise. Natural sensibility, at first, remonstrates against being deprived of an adequate supply of natural stimulus, and if remonstrance prove unavailing, becomes clamorous in demanding it. But if reiterated appeal and demand pass unheeded, natural sensibility thus baffled, gives up the contest, and changes to unnatural, or sinks into a state of inanity.

The principal inlet of a class of natural stimuli, which is absolutely essential to the very existence of the body, leads through the stomach—I now refer to nutritious particles of matter. Without an adequate supply of these, no part of the body can long retain its natural and adequate sensibility, and no part can be naturally and adequately exercised. Without this supply, the brain cannot think, the muscles cannot contract and relax, the eye cannot see and the ear cannot hear in a natural and adequate manner. Hence the faithful advocates, and deluded followers, in this country, of the false philosophy of a deficient and exclusively vegetable diet, who during the enjoyment of vigorous health, set unnatural limits to digestion, must keenly feel the craving clamorous demands already spoken of—the lustreless eye, the pallid surface, and attenuated muscles of such of them as have been fortunate enough to escape the mad house, and have not reached the grave, are so many examples of degenerate sensibility and inanity, produced by *deficient natural exercise.* The records of criminal jurisprudence, in innumerable instances, present a complete history of the cravings, remonstrances, and clamorous demands of the natural sensibility of the organ of consciousness in the human brain. On referring to these records, it will be found that criminal career generally

commences in a disregard of some of the less important social or moral relations of man. The natural sensibility of the organ of consciousness, then begins to *crave* for its natural stimulus—as the individual progresses in his career of crime, it alternately *remonstrates*, *demands*, and *clamors*, until finally it gives up the contest—in the language of Scripture, becomes "seared as with an hot iron," and quietly permits the perpetration of deeds the most inhuman.

Though augmentation of natural sensibility is the *immediate* result of excessive natural exercise, its *secondary* effects are sufficiently manifest in the fatigue and debility which succeed—sensibility is diminished by each repetition of excess, until finally it becomes incapable of a natural response to an adequate quantity of natural stimulus. This constitutes one process of confirmation in bad habits.

It may, at first sight, appear anomalous, that both deficient and excessive natural exercise should produce the same result—diminished natural sensibility. It will be remembered, however, that throughout nature, a given object may generally be accomplished in a variety of ways. The same solution of the same mathematical problem, may be the accurate result of different methods of calculation; it frequently happens in chemistry, that the same compound or elementary principle may be obtained by practising different modes of sinthesis or analysis; on the surface of the earth, different routes lead to the same locality. So likewise in the human system; both deficient and excessive exercise, each in a different manner, and by a different route, lead to diminished sensibility—excessive exercise being the most direct, fashionable and thronged pathway. It will, therefore, I hope, be recollected, that excessive exercise *of any part of the body*, constitutes intemperance.

The successive advent of new faculties and functions during infancy and childhood; the progressive developement of all the faculties and functions during youth, their maturity and permanency in manhood; their gradual decline in age, and final extinction at the portals of eternity, are all, the legitimate consequences of adequate natural exercise. It gives placidity to infancy, frolic and joyousness to childhood, buoyancy to youth, vigor and might to manhood, and then commences to destroy. But even its works of desolation are not painful. Obtuse hear-

ing or indistinct vision, may be the first obvious token to the aged, of diminished natural sensibility; if however, the diminution have not been prematurely induced by deficient, excessive or unnatural exercise, it will not be painful, inasmuch as the sensibility of those organs which enable man to observe external objects, and of those which attach him to them, fail proportionately and simultaneously. External sensation becomes less and less vigilant and keen, the intellect becomes less and less active, the affections less and less strong, digestion less and less rapid, until finally when the last spark of sensibility is about to be extinguished, its possessor yields it willingly, and sinks gently to his parent earth. This constitutes the *natural* termination of human life.

Adequate natural exercise then, can never produce disease, nor be accompanied by pain. It is the standard of health and comfort.

We are necessarily *conscious* of the exercise of some organs of our body, on account of the anatomical connection existing between them and the organs of perception in the brain; continuous nervous fibres being known to pass directly from one to the other: but as there are other organs of the body, not thus directly connected with the organs of perception; there are also some, concerning the exercise of which we know nothing, except by observation. But do we not possess organs for observation? Have we not the power, and *is it not our duty* to exercise them? And how can we exercise them more agreeably or usefully, than by observing the effects of external agencies upon our own system? And yet many people pay as little attention to this matter, as though they were convinced, that the only essential objects to be accomplished, by exercising the digestive organs, the lungs, and the muscles, were, to appease hunger, to expand and contract the chest, and "to make one leg run races with its brother." Such persons seem never to have perceived that the digestive function was instituted for the purpose of furnishing fresh material to supply the natural waste of the body; that the object of breathing was to expose to the action of the atmosphere in the lungs, the mass of circulating fluids, thus fitting them for nourishing all parts of the system; and that the power of contracting and relaxing the muscles, was conferred upon man for useful and salutary purposes. Ignorance

of the laws and objects of exercise, among a large majority of mankind, affords the most ready and rational solution to the inconsistency of their habits. One man experiences an unusual disinclination to mental and muscular exercise, a sense of weariness and lassitude of his whole frame; but instead of attributing these disagreeable feelings to their true cause—to the breathing of the contaminated atmosphere of some crowded and ill ventilated assembly room, theatre or church, he foolishly considers them the result of an inexplicably perverse tendency of his *constitution*, for which *he* is neither to be blamed, nor held accountable. Another after indulging to excess, for a length of time at table, in high-seasoned food, and fermented or alcoholic drinks, has an attack of paralysis, rheumatism, or inflammatory fever; but because these effects do not *instantaneously* follow the voluntary transgression of natural law, the afflicted individual and his friends recognize in them neither salutary warning nor merited punishment, but impiously call or think them unreasonable dispensations of Divine Providence. The inhabitants of a large town or city, after allowing the daily offal of their persons and dwellings to accumulate in the private yards and alleys, the public streets and sewers, until the whole atmosphere becomes saturated with the deadly effluvia from putrifying and fermenting masses of animal and vegetable matter, are visited by the scouring pestilence; but instead of considering this calamity the inevitable consequence of their own voluntary violation of natural laws, written in legible characters on the every day face of things, they look upon it as a mysterious manifestation of Divine wrath; and instead of applying themselves vigorously to remove its causes, they flock to the churches, and vainly and *wickedly* implore the Almighty to suspend the operation of his own laws—to intercept the progress of the pestilence, by a direct and *miraculous* interposition of omnipotent power!

At the time of its creation, every animal was undoubtedly provided with a mechanism, and endowed with properties which adapted it to the medium in which it lived, and fitted it for the salutary operation of the external influences to which it was exposed; nay, further, I believe that the nervous system was originally so constructed, and so connected with its executive agents, and that its sensibilities were graduated in such a manner, as to enable it when exposed to the full influence of appro-

priate external stimuli, spontaneously to manifest all the phenomena, and develope all the functions proper to the animal. Now whereas the nervous systems of all animals of the highest and lowest, as well as of the intermediate gradations—possess some properties and some anatomical arrangements in common; and whereas there are also points of difference observable, in the properties and anatomical arrangements of the nervous systems of animals the most nearly related to each other, there are of necessity some external stimuli, to the salutary influence of which all animals are adapted; as the stimulus of oxygen, and some, which are calculated to impress favorably only a certain class or species; as the stimulus of a particular kind of food. The more numerous the points of difference in nervous structure and nervous sensibility, which exist between one animal and another, the fewer will necessarily be, the number of stimuli which they can enjoy in common. Hence what is nourishing food for one animal, becomes deadly poison to another.

The above facts should be borne constantly in mind, in performing those experiments upon inferior animals, which consist in the administration of substances for the purpose of ascertaining their effects upon the human system. For such experiments, animals should always be selected, which, in their structure and habits, are nearest assimilated to man; and even then, the inferences deducible from experimental results, cannot be extended with much certainty, to the human species—they should, therefore, be acted upon in practice with great caution.

Vegetables, it is known, are in a great degree, stationary beings; still, by the structure or tenacious vitality of their seeds, nature has in many instances, provided for their extensive distribution; and by the universal diffusion of the stimuli to which the simple structure and limited properties of nearly all vegetables are adopted, she has furnished the same plant with the natural means of subsistence, in regions very different from the place of its nativity: variation of temperature, being almost the only circumstance, which appears to set limits to the distribution of plants. The same remarks apply to the geographical distribution of those animals, which, in simplicity of structure and endowments, nearest approach the vegetable kingdom.

The wants of animals increase however, in proportion as their structure becomes more complex, and the sensibilities of their

nervous system more numerous ; and inasmuch as these wants cannot all be gratified, except by subjecting each specific sensibility to the impression of its appropriate stimulus, it will be found that mountains and rivers do not form the natural boundaries of the region which any animal may inhabit, but that the presence and absence of particular stimuli, fix and circumscribe the local abode of every species of animal ; each having, what may be termed, its natural sphere of adaptation, beyond which, it will not voluntarily penetrate. It may be truly said, that the several organs of any one of the superior animals, typify in their sympathies and dependencies, the whole animated world. This may in fact be regarded as one stupendous animal : the *primary* stimuli of which, are the unalterable phenomena of universal nature—the *secondary*, modifications of the first, produced by the exercise of individual organs, and giving rise to mutual relationships and mutual dependencies.

By bestowing upon MAN, organs, the most numerous and diversified, and properties the most refined and elevated, nature has evidently designed him for the highest destiny—we accordingly find him at the summit of the scale of animated existence. Man has a sphere of adaptation extending beyond that of other animals, and this constitutes the superiority of human destiny. Owing to difference of organization also, the sphere of adaptation of one portion, or of one individual, differs, in some particulars, from that of other individuals and other nations ; and from this difference result national and individual destiny.

Part II.—REVIEWS AND EXTRACTS.

On the Remedial Powers of the Persesquinitrate of Iron. By T. C. Adam, M. D., of Lenawee county, Michigan. For upwards of five years we have been in the habit of prescribing, almost daily, the *liquor ferri persesquinitratis*, a remedial agent first discovered and introduced to notice, we believe, by Wm. Kerr, Esq.; though Dr. Graves, in a clinical lecture, quoted in No. XXXV. of this Journal, ascribe this merit to Dr. Christison, of Edinburgh. We have derived from its use very remarkable assistance in the treatment of several diseases, especially diarrhœa, and other affections of mucous membranes accompanied by discharges; and as its virtues seem not to be so generally known in this country, as they deserve to be, we have been induced to lay before our brethren a few observations illustrative of its value as a therapeutic agent.

The formula for the preparation of this remedy, as given by Mr. Kerr, will be found in the No. of this Journal for May, 1832, p. 235.

Our first trials of this remedy were in cases of *diarrhœa*, and from its employment we have derived highly beneficial results. We must not be misunderstood to mean that this astringent is applicable to every case of diarrhœa, or that it has been found indiscriminately useful. We have not thought proper to administer it in every variety of this complaint; but of its beneficial effects in such cases as the following, we can speak with much confidence.

In January, 1832, a child of six months of age became our patient, on account of a diarrhœa, nearly habitual, but aggravated by dentition. Immediate relief was obtained by means of a free incision through the gums, down to the tooth or teeth. The fretfulness ceased, and the diarrhœa subsibed to its usual degree. Two drops of the nitrate were then ordered three times a day, and to be continued for at least ten days after cessation of the diarrhœa. The effects of this treatment were a cessation of the habitual diarrhœa for at least eighteen months, and an improvement in ruddiness of complexion and in temper or feelings of comfort.

In April, 1832, a lady applied for advice, probably in consequence of the threatened invasion of cholera. Her bowels were very readily moved, generaly tender or uneasy; she was languid and weak, pale and emaciated, and was much troubled with cold feet and profuse perspirations. She had been subject to diarrhœa from the slightest causes for several years. Intelligence of an unpleasant nature would almost invariably produce it. For her I ordered frictions with salt-water to the surface, and the nitrate, in doses of 15 to 25 drops, four times a day. After using the remedy a few days, this lady commonly improved; but from giving up its use too soon, the relief was not of long continuance.

We have generally ordered the medicine to be continued for at least ten days after the disease disappears; and have continued its use as long as four months after every threatening of diarrhœa was gone. The diarrhœa never returned for several months, if the medicine was faithfully taken for ten days or more; but, as in the cases of this lady, we have had relapses in those who neglected the usual order so soon as amendment took place.—This lady's case closely resembles that alluded to by Dr. Graves in No. XXXV. of this Journal. We may remark in passing, that Dr. Graves prescribes the nitrate in much smaller doses than we have been accustomed to do. We prescribe ten drops at a dose, two, three, or four times a day, frequently twenty-five; whereas Dr. Graves gives seven, gradually increased

to fifteen drops in the course of the day; and we think we have obtained a more rapid amendment, from the larger dose.

A lady, about 30 years of age, had had diarrhœa for ten moths previously to applying to me. It commenced as soon as she got up in the morning, and continued all forenoon; in the afternoon it subsided almost entirely. It was accompanied with but little pain; but there was considerable thirst. During the ten months she had tried a variety of proposed remedies in vain.—She has never been free from her complaint except for about two weeks, after having taken some purgative pills, which operated very powerfully. In constitution and symptoms, this case was exactly parallel with those referred to by Dr. Graves, in the XXXVth No. of this Journal. She took ten drops of the liq. persequnitr. ferri, gradually increased to twenty drops, three times a day. In four days she was nearly quite free from the diarrhœa; and in two weeks felt stronger and in better health than for ten months previously. For about a year, as long as we knew her history, she had no return of diarrhœa, or bad health.

A gentlemen, about 30 years of age, had recently moved to Michigan, when he applied to me on account of diarrhœa, accompanied with considerable uneasiness and griping pains. He attributed these complaints to the changes he had been obliged to make in his diet, especially to eating more pork than usual with him, and partly to the water he had to drink. I could ascertain no other causes in operation, and thought his own etiological theory probably the true one. To lessen the irritability of the mucous membrane and at the same time restrain the discharges, I could think of no medicine more likely to be effectual, than the nitrate of iron. Fifteen drops were taken three times a day in water, and on the third day he reported himself much relieved from the griping pains and uneasines in abdomen. By continuing the use of this remedy for not more than ten days, this gentlemen obtained complete relief from his "new country" complaints, which had existed upwards of six weeks before the nitrate was prescribed. From the effects of the remedy in this case, and from some similar observations in other cases, we were inclined to believe that this nitrate, like some other metallic nitrates, had the property of subduing morbid sensibility of the organic nerves. In the paper of Dr. Kerr, will be found a case remarkably confirmatory of this theory.

Since we commenced the use of the nitrate of iron, there has seldom been any long interval between our cases of children who were habitually subject to oft recurring attacks of diarrhœa, who occasinally had attacks of what mothers call worm fever—infantile remittent. In such cases diarrhœa not unfrequently alternates with constipation. It is seldom such cases are put under medical treatment, except when the remittent fever or the diarrhœa is more than usually severe. We have generally had children of this description put under our charge when they were labouring under fever. With doses of calomel and rhubarb, followed by oil in the morning, repeated every second night, and conjoined with a bland, easily-digested diet, and with attention to ablution, quietude, and warm clothing, we have usually succeeded in alleviating or curing the fever. We have, then, in a majority of cases, recommended that the child should, for some weeks, have a bland nutritious diet, consisting chiefly of well-boiled farinaceous articles, and make use of the nitrate of iron regularly. In several instances we have failed to procure a steady employment of this medicine for a sufficient length of time; in some, again, the parents have continued it, of their own accord, for upwards of two months; and in all the cases in which it was regularly administered for a period of three weeks or more, we do not know that such children were again attacked with fits of diarrhœa, or suffered from infantile fever. Of several we can affirm *confidently*, that they were altered subjects; formerly pale, exsanguine, peevish, delicate, and requiring much anxious attention,

they have become hale and fresh-coloured, strong, playful, and easily taken care of.

Such are the varieties of diarrhœa for which we most frequently prescribed the liq. persesquinitr. ferri. They are all of a chronic nature, and the temperament of both the younger and the adult patients has had a large admixture of the nervous. This we incline to attribute to the irritable condition of the mucous membrane of the intestinal tube, and to the debilitating effects of frequent diarrhoea. Numerous cases, similar to those given, might be produced from our case-book; but our purpose is solely to indicate clearly the kind of cases in which we have employed this medicine most frequently, and in which we have found it without a rival. For this purpose we have given, we hope, sufficient narration, and avoided "vain repetitions." We will now add a few explanatory observations.

The *dose* which we employ in adult cases is, as we have already incidentally remark, much larger than that which Dr. Graves is reported to employ. We seldom order less than fifteen drops at the commencement; after a few days of employment of the remedy we increase the quantity to twenty-five, and thirty drops at a dose. For children we proportion the dose according to the age. We have only in one case that we recollect of, that of a Mrs. J. Dunlop, had occasion to reduce the quantity. In this case, which, by the bye, was one of recent, not habitual diarrhoea, the usual dose did not produce any alleviation of the symptoms, but seemed rather to increase the griping pains; we, therefore, reduced the quantity to seven drops, and in less than twenty-four hours, the amendment was very marked. We have administered, and we have taken as much as a hundred drops; but, lately, where the usual quantity does not produce relief in two or three days, we prefer adding a little laudanum, or employing some other auxiliary, to the employment of more than thirty-five drops. At the same time, we had never experienced any bad effects from so large a dose as even a small teaspoonful, which we have frequently known to be taken three and four times a day.

The *time* during which the nitrate will keep good, that is, clear and transparent, varies considerably. Dr. Graves says about a week—some of my acquaintances and correspondents say three and four weeks, while I myself have never had any become turbid in less than five or six weeks, and generally I have it quite transparent for two months or upwards. I have also used it turbid without any sensible diminution of its astringent effects. Mr. Kerr, however, thinks that when it has become turbid, it is not so powerful. It is only in a few instances that we have employed it after this change.

In cases such as we have above described—cases of habitual diarrhœa, from birth perhaps, in children, and in cases in which there seems to exist an excess of irritability in the digestive tube—we know of no medicine which produces a more beneficial, immediate effect; and certainly, in its power of preventing similar attacks in future, this remedy is without any rival, so far as our experience extends. In cases of children, we have found its long-continued employment produce the most satisfactory results.

We have endeavoured to guard against any misconception of our ideas as to the cases of morbid condition to which our remedy is particularly applicable. We meet with chronic diarrhœa in two forms—persistent and what may be called intercurrent. The former is generally the consequence of a severe acute attack; by the latter, we mean to designate such cases of this disease as consist in a tendency or predisposition, or in the frequent occurence of slight attacks of an acute kind, the usual state being more or less normal, or rather inclination to constipation. In the majority of cases of both kinds, the proximate cause, as the pathological condition has been called, undoubtedly consists, not so much in the application of foreign irritating matter, or on fæcal accumulations or morbid secretions, or on an undefined debility or relaxation of the mucous membrane, or on congestion or inflammation, so

much as on an excess in the sensibility of the organic nerves which supply the digestive tube. It is not for *chronic diarrhœa*—a name for a symptom not a specific condition, that we prescribe this chalybeate astringent and sedative; but when, by investigation, we have satisfied ourselves that the diarrhœa is dependent on the above named condition, we then employ this remedy in preference to opiates, or any other anti-diarrhœal medicaments.

Having thus laboured to indicate, with precision, those forms of disease in which we have derived from the use of the *liq. persesquinitr. ferri* the most satisfactory and beneficial results, we will now briefly notice a few additional forms of disease, in which we can speak favorably of its remedial effects, though not with the confidence we feel as to our previous observations.

In *Leucorrhœa*, we have employed the nitrate of iron with excellent success. But to procure benefit, we are careful in the selection of proper cases. These we think are such as seem chiefly dependent on a laxity of fibre, or on an over-secretion without inflammatory action. The persons in whom we meet with this kind of leucorrhœa, are generally pale, exsanguine, feeble, languid. We would not administer the nitrate where there was reason to suspect any disease of the uterus. But in the former kind of cases, we have employed it very successfully, using it internally, generally, and always topically, in injection, We add to four ounces of water such a quantity of the nitrate of iron as will produce in the vagina a gentle degree of heat or smarting. The internal use is prescribed where it is probable that the system by this means may be so roborated as to aid in the cure of the local disease. Almost all the preparations of iron are useful in such cases, and we think this not inferior to any in this respect.

In several cases of *Menorrhagia*, we have found this astringent and tonic of much service. We think it may be preferred, in cases accompanied with anemia, debility, and relaxed fibre, to any astringent in common use. We know of none equal, save a mixture, in equal proportions, of the sulphates of alumina and iron.

We have made trial of the remedial power of this medicine in such cases of almost all the diseases in which astringents are usually prescribed as we thought the most appropriate. We do not know of any case in which the nitrate enjoys a marked superiority to the common astringents; but judging from our experience, we presume it will be found a convenient and useful addition to the list of such remedies.

Dr. M. A. Patterson, of Tecumseh, informs me that he has found the nitrate of much use in the treatment of *aphthous sores*, or what is vulgarly called "canker." Our experience, though small, confirms the utility of this application of the medicine.

A gentleman, in whose house a bottle of this remedy was at a time when he had the toothache, applied a few drops *suâ sponte*, and obtained relief.—May the nitrate of iron not possess a sedative or anodyne effect like the nitrates of silver, bismuth, &c.?

In fine, it may be mentioned as no small recommendation of the preparation, that it is cheap and easily procurable, and as each practitioner can prepare his own, it may be depended upon as uniform and unadulterated in any important emergency. Those who have *felt* the deficiency, in purity and uniformity, of many of our remedial agents, will account this as not the smallest of its recommendatory qualities.

A Treatise on Inflammation. By James Macartney. M. D. F. R. S. &c. &c. &c. Quarto, pp. 214. Two Plates. Longman's, 1838.

It will probably appear a hazardous experiment to publish a work upon inflammation at present. The subject is so hackneyed as to excite little curiosity or attention, and few persons would conceive it possible that any man could advance new views of its nature, or new plans of any value in its management.

But Dr. Macartney's reputation will secure that notice which might otherwise be denied, and command a full audience and respectful attention whenever he addresses the profession. We may be satisfied that we shall meet with ingenuity and originality, and whether we are convinced or not, we are certain of pleasure and instruction,

Dr. Macartney tells us in a brief advertisement, that:—

"The present Treatise contains the theory and practice, respecting the subject of inflammation, which I have taught during many years in my lectures on surgery. Its publication did not become necessary, until I had resigned my professorship in the University of Dublin, as I had annually the best means, perhaps, of promulgating and explaining my views in the form of lectures. The delay has been attended with the great advantage of enabling me to verify and improve my early opinions, by a longer experience, and by the successful practice of my pupils, who are now settled in every part of the United Kingdom and throughout our Colonies. Whatever the profession may think of the doctrines I have advanced on the subject of inflammation, the practice founded on them is at present established too extensively, and confirmed by the experience of too many individuals, to admit of controversy.

We shall run through these lectures, or this Essay, as rapidly as is consistent with justice both to the author and our readers. We shall content ourselves with noticing those parts that are either novel, or give some new turn or some striking confirmation to what has been familiar.

The work is divided into fourteen parts, or sections, in which Dr. Macartney discusses in succession—The History of Inflammation—Phenomena of Inflammation—The Real Consequences of Inflammation—The Reputed Consequences of Inflammation—The Different Modes of Reparation—Cicatrization—The Reparation of the Different Tissues—The Constitutional Causes of Inflammation—The Local Causes of Inflammation—The Proximate Cause of Inflammation—Species of Inflammation—Congestion as contradistinguished from Inflammation—The Remedies for Inflammation.

1. *History of Inflammation.*—Dr. Macartney presents a brief sketch of the different classes of animals, in reference to their liability to Inflammation.

In those zoophytes which present no visible nerves and a very simple nervous system, none of the phenomena of inflammation are exhibited.

Dr. Macartney alludes to the phenomena of reproduction in the articulata. The instances are numerous, the phenomena rather varied, and we do not perceive conclusive proof of the non-existence of inflammation in the class.

The class mollusca, says our author, do not seem to be capable of genuine inflammation.

Ascending to the vertebrata, Dr. Macartney does not believe it possible to produce the genuine effects of inflammation in either amphibia, or reptiles, or fishes.

"In conducting some experiments on the swimming-bag of *fishes*, I was surprised to find that the wounds made into the belly of animals did not inflame. I was therefore curious to know what injuries fishes would bear without producing inflammation. Having taken some living fishes from the water, I introduced pieces of wire beneath the skin and amongst the muscles of the

body; the fishes were then returned to the water, and on examining them several days afterwards, I found that no suppuration had taken place. The tracts of the wounds were pale and smooth, and only moistened with a serous fluid, and none of the usual appearances of inflammation were visible. A very common occurrence in fishes, is the existence of worms, which perforate the tunics of the alimentary canal, without producing any change of structure, except an increased vascularity around the perforations. The reproductive power of fishes is confined to their fins, which are sometimes regenerated after being lost by accident, or by a species of death which is quite different from that which is the consequence of inflammation in the higher classes of animals.

I have never seen any appearance of inflammation in *reptiles* after wounds or injuries. *Serpents* often lose a portion of their tail; and although there is no attempt made for its reproduction, it is very speedily cicatrized without inflammation. Some *lizards* are able to reproduce parts that are lost, though not so perfectly as in the lower classes of animals. When lizards get a new tail, it wants the vertebræ. The *salamander* has more power of reproduction than any other of the class, being capable, according to the statement of many physiologists, of regenerating the tail, the limbs, and the lower jaw. I have seen imperfect attempts at the reproduction of the fingers and toes in the *toad* and *frog*. In all this class of animals, there is great tenacity of life, and power of repairing the effect of injury, though not always the ability of regenerating limbs. Having had occasion to make the experiment of removing a part of the brain of a *toad*, it became necessary to take away a considerable portion of the skull. The wound never seemed to inflame. In a very short time it was healed, and the vacancy in the skull was made up by a substance half cartilage and half bone, leaving, however, a depression, corresponding to the quantity of brain removed."

In birds external mechanical injury produces indubitable inflammation; but the instances in which internal disorders become a cause of inflammation, are very limited and are nearly confined to febrile states and particular epidemics.

Quadrupeds are subject to inflammation both from external injury and internal disorders; they usually shew but little constitutional sympathy with local disease.

Man is especially prone to inflammation as well as to constitutional and sympathetic disturbance.

Upon these data and premises, Dr. Macartney founds a much bolder hypothesis than will probably be suspected by our readers. This hypothesis contain the spirit of the book, and embodies the main fact, which its author endeavors to establish. Let him speak for himself.

"The history I have given of the effects of injury in the different classes of animals, proves that the powers of reparation and of reproduction are in proportion to the indisposition or incapacity for inflammation, and leads necessarily to the induction, that inflammation is so far from being necessary to the reparation of parts, that in proportion as it exists, the latter is impeded, retarded, or prevented, and that when inflammation does not exist, the reparative power is equivalent to the original tendency to produce and maintain organic form and structure; that it then becomes a natural function, like the growth of the individual or the reproduction of the species. I am aware that this opinion is opposed to universally received doctrines.—The subject, I think, has never been fairly examined. The necessity of some degree of inflammation to the process of reparation has been supposed by the early surgeons, and has been received by the moderns without inquiry. The opinion arose in those rude ages of the art when nothing was trusted to nature, and the treatment of every wound was such as to induce and maintain for a certain time the most severe inflammation. The igno-

rance of the ancients of the use of the ligature for suppressing hœmorrhage, led them to employ, instead of it, strong compression, and the actual cautery in cases of wounds and after amputation; and being accustomed to see wounds ultimately heal after such barbarous treatment, they naturally supposed that inflammation and all its evil consequences were necessary; which they took care to ensure in all cases, by boiling oils, hot and irritating ointments, tents, setons, and strict and cumbrous bandages." 7

After proceeding to notice and partly to criticise the views of Mr. Hunter, and to point out inconsistencies between his doctrines and his facts, Dr. Macartney seizes on a passage in Sir Astley Cooper's lectures, as a fair point on which to try the issue—inflammation or no inflammation in the reparation of injuries.

"The doctrine," he observes, (that inflammation is necessary) "has been avowed by Sir Astley Cooper in the strongest language, in his Lectures on Surgery, published by Mr. Tyrrell. The passage may be taken as expresing the general opinion of the profession in this country on the question.—He says: '*Inflammation is a restorative process; no wound can be repaired without it; even the little puncture made by the lancet in bleeding, would inevitably destroy life, if this salutary process did not prevent it.*'

I am well pleased, that the doctrine has thus been so clearly and unequivocally asserted, that no doubt can exist respecting the meaning of the author. It is also fortunate, that Sir Astley has selected the wound made in venesection as his example; as I shall afterwards have occasion to quote the healing of this wound, as one of the strongest and most familiar instances of union being effected, without the slightest inflammation." 9

We would make a few observations before we proceed any farther.

1. We perceive that confusion is already approaching from the vague sense in which the term inflammation is used by the respective parties. Dr. Macartney does not define what *he* means by inflammation—whether certain phenomena, as swelling, redness, &c.; or certain effects, as adhesion, suppuration, or so on. Mr. Hunter, whose want of education was so unfortunate, sometimes employs "inflammation" in one sense, sometimes in another. Yet this makes all the difference, especially in a dispute.

2. We may, nay we must conceive, that though the pathological state of inflammation be excitable in all animals, its mode will vary in the utmost possible degree. In an animal with a distinct circulating nutritive fluid, inflammation consists essentially in an abnormal afflux of that fluid to a part. How different must the phenomena be, in a creature with red blood or white, with warm blood or cold. If this be so, and reason informs us that it must, how essentially must the nature of inflammation be changed when we arrive at animals, as the polype, in which we can detect no circulating fluid at all. If there be no such fluid, it follows of course that there cannot be any partial or abnormal collections of it. Yet the purposes served by inflammation elsewhere, may be served in such animals by a different process—different in mode, but similar in object. Animals in this category cannot legitimately be compared with those which possess a true circulation, undoubtedly not with the highest of that class endowed with warm red blood.

To determine the precise points of analogy or difference, a series of experiments would be required. But Dr. Macartney communicates none. The actual effects of mechanical and chemical stimuli—the results of various lesions—the changes, if there be such, of disease, are not stated by our author, and do not appear to have been determined. Yet, in the absence of direct experiment and of positive information, we do not feel ourselves warranted in assenting to the position, that nothing analogous to inflammation occurs in the lowest animals.

3. The statement that reproduction is greatest where inflammation is least or is absent, requires something more than that naked announcement. In the simplest animal the whole body is comparatively homogeneous, and there is no centralization of fluids or of organs. All the molecules, then, must have, loosely speaking, the same powers, and the addition of fresh molecules, is comparatively simple. But as animals rise in the scale, centralization obtains, the parts are no longer homogeneous, their life consists in a finely adjusted balance and dependence, and the reproduction of lost parts becomes too great an effort. It is unphilosophical to imply that reproduction is less active in these creatures because inflammation is more so. The cause of both phenomena is to be sought in the centralization of the vital powers and organs. The polype may, for aught that appears to the contrary, have inflammation in its own way, though it cannot have the "dolor, rubor, calor, tumor" of man. In the polype, increased vital energy in the molecules of the part, may constitute the essence, and give rise to undoubted effects of inflammation—in man, such augmented local action would be useless, unless combined with correlative augmented energy in the vital organs.

4. When surgeons of the present day assert and believe that inflammation heals the simplest wound, the best informed imply or understand nothing more than this:—*that*, after the simplest wound, an effusion of plastic material take place, which forms first a bond of union between the divided surfaces, and afterwards is more or less identified with them in structure; *that*, these changes are attended with a certain afflux of blood to the part; *that*, this appears the simplest mode of what an increased ratio constitutes the pathological state, and gives rise to the effects of inflammation: and *that*, the steps from this restorative adhesion to the more aggravated phenomena of inflammation are so gradual, that it is impossible to fix any positive limit between the reparative and inflammatory process.

The second Chapter is on the Phenomena of Inflammation. Dr. Macartney commences by digressing to the hypothesis of the cause of animal heat. If we have observed some indications of a tendency to confident generalization in the previous chapter, those indications are rather augmented in the present one. The opinions of physiologists are daily leaning more and more on the connexion between animal heat and respiration; a connexion supported by a broad survey of the animal kingdom. But Dr. Macartney decides in the negative. It would be foreign to our purpose to enter on so important and extensive a question. We must content ourselves with stating that we do not and cannot go along with our author in several of his opinions and conclusions. We may observe that Dr. Macartney is disposed to ascribe the increased heat of inflamed parts, more to their state of local organic sensibility, than to the condition of their arteries, as regards circulatioon or secretion—an opinion which is certainly less intelligible than the commonly received one.

Dr. Macartney treats seriatim of the signs of symptoms of inflammation —heat, pain, redness, swelling, and altered or suspended natural secretions. On each, his remarks are ingenious. We pass to the next Chapter, on the—

Consequences of Inflammation.

Dr. M. very preperly observes that, what are denominated the phenomena of inflammation are the *immediate effects* of the augmented sensibility and circulation in the parts engaged. To these succeed, or rather, there arise out of them as a matter of necessity, if the inflammation persist for any time, a number of consequences. These he enumerates as *chemosis*, *œdema*, *vesication*, *suppuration*, and the total *disorganization* and *death* of the part.

1. *Chemosis.*—"When *chemosis*, or the extravasation of the blood, takes place without a rupture of the vessels by mechanic injury, it is not designed to become organized, and therefore it remains in a fluid state. The absorp-

tion of the blood, when shed under these circumstances, is tedious. I have known chemosis arising from erysipelas of the face, remain for months before it was removed. When blood is found extravasated in an inflamed part, there are always, I think, ruptured vessels. Such effusions take place under circumstances favourable to the laceration of the small arteries; as when inflammation is very violent, or occurs in lax cellular tissue; or where parts are not yet supported by the deposition of coagulable lymph. Thus, the mucous membrane and the surface of ulcers, when highly inflamed, yield blood. The loose cellular membrane joining the conjunctiva to the globe of the eye, becomes charged with blood in severe opthalmia, and the submucous tissue of the great intestines is similarly affected in acute dysentery.—In the first steps towards the formation of an abscess, before the parts are made solid by coagulable lymph, blood is commonly extravasated.

In some abscesses, as these of the liver, spleen, and brain, we sometimes see with the naked eye the lacerated vessels; and in the first, I have observed the biliary vessels also to be broken, and the bile mixed with blood and pus contained in the cavity of the abscess. The best evidence is to be obtained by injecting any part, in wich blood has been extravasated, when the fluid injection will escape through the broken vessels and imitate the previous effusion." 24.

It will be observed that Dr. Macartney employs the term Chemosis, to signify extravasation of blood. Ecchymosis is the designation usually given to that pathological condition, and chemosis is commonly understood to mean effusion of serum into the submucous cellular tissue itself. We mention this, to prevent misconception on the part of our readers. An observation of Dr. Macartney's would imply that he considers chemosis in the eye as purely extravasation of blood. There is some confusion in this.

2. *Œdema.*—This, says the Doctor, is the diffused extravasation of serum. It is usually found in relaxed and depending parts. It may occur with a very low degree of inflammation, as in some species of erysipelas. Persons are most prone to œdema in inflammation, who have the small veins full, or who have a tendency to anasarca; and the parts of the body where œdema is most remarkable, are those in which the cellular membrane is most lax, as the eye-lids, the prepuce, the scrotum, and the external labia of females. Œdema is always unfavourable to reparation, and parts once affected with it, are apt to retain some serum in the cellular membrane afterwards, giving them a bloated or tumid appearance. Where the disposition to œdema is general in the body, it is a proof of weaknes, and often leads to a fatal result after severe accidents or surgical operations.

3. *Vesication* is familiar. It may result from simply increased irritation in the vessels of the cutis—or form inflammmation in constitutions or parts which are incompetent to effect reparation; so it accompanies mortification.

4. *Suppuration.*—Dr. Macartney considers this as always arising from more or less of inflammatory action. His remarks upon the process need not detain us.

Speaking of *acute abscess*, our author offers the following rationale of the observable phenomena. In the first instance always, he says, some of the small vessels give way, and some blood and serum are poured out into the surrounding tissue. In order to separate the disorganized from the healthy structure, lymph is shed, by which the extravasation of the blood and serum, is restricted within certain limits. This lymph next acquires vascularity and organization, and then, and not before, the secretion of pus commences.—In the first stage of abscess, if the fluid be evacuated, it is well known to consists of blood and serum streaked with pus. As the lymph which is designed to compose the walls of the abscess advances in organiza-

tion, pus of a better quality is secreted; and as the contents of an abscess are proved to be, like the other parts of the body, transitory in their existence, while fresh pus is being added, the riginal contents are removed by absorption; hence, an abscess of some duration is found only to hold genuine pus. During the time that this change is taking place in the fluid contents, a similar one is proceeding on the solid walls of the abscess. On the side, the process of absorption is reducing the thickness of the parietes, while the other sides are increasing in the same proportion by the addition of new substance. There is also another remarkable circumstance attending the progression of an abscess, which was first accurately described by Mr. Hunter. On the side of the abscess that is becoming thinner, there is also a disposition to yield, or to be extended; and on the side that is growing, there is a tendency to contract. The pus of an abscess is, therefore, brought to those surfaces on which it is to be evacuated, by four processes—absorption, new growth, extension, and contraction; and as the object to be attained in this case, is the removal of fluid, the same means are employed for conducting extraneous substances out of the body.

It is not generally supposed that the effusion of lymph and its vascularization are necessary for the secretion of pus. The observation of Dr. Macartney, if well founded, is interesting. Yet, as we see pus formed by mucous membranes, it is not impossible that other tissues when inflamed may do so by their own vessels independently of effused lymph.

Chronic Abscess.—When the attempt, continues our author, is made to form an abscess by weak or scrofulous constitutions, and in situations where the cellular substance is lax, the progress of the disease is very different from that above described The first extravasation is serum, which passes easily into the large cells of the cellular membrane, with little or no injury to their structure; the parietes of the chronic abscess are not composed in the beginning of organized and vascular lymph; no genuine pus therefore is found in such cavities in the first instance; the fluid they contain is serous, mixed with coagulable lymph, parts of which are found as flakes floating in the serum. As the cavities of chronic abscesses are not provoked, either by severe tension, or the quality of the contained fluid, there is no preparation made for some time to remove their contents. The collections therefore often traverse a considerable distance along muscles or under plates of fascia, before they arrive at the skin, which ulcerates very slowly; after which the cavities may inflame, their interior surface become more highly organized, and secrete genuine pus.

He proceeds to remark that sometimes these abscesses, even when of considerable size, are absorbed.

"I have known this occur several times in psoas abscess, where there was no disease of the vertebræ. In one instance a young lady had one of these languid abscesses formed suddenly above the clavicle; it descended behind the clavicle, and proceeded underneath the mammary gland until it came to the waist, where it was finally removed by absorption; the patient's constitution was strengthened during this time, which I have found in several instances effectual in causing the absorption of such collections." 34.

Dr. Macartney offers nothing now on the termination of inflammation in mortification, or disorganization of a part.

On the Reputed Consequences of Inflammation.

Dr. Macartney apologizes for including under the head of reputed consequences of inflammation, the *effusion of coagulable lymph, and ulceration.*—These, he says, are processes which, from being sometimes associated with inflammation, are ascribed to an inflammatory action, although in their own nature they are perfectly different. This is a startling assertion, particularly

when coming from a man like Dr. Macartney. Our readers will be naturally inquisitive to learn his proofs.

"It is well known," he argues, "that coagulable lymph may be thrown out by a natural and healthy action, as in the formation of the decidua uteri: that it is eminently conservative, in arresting hemorrhage from opened vessels; in the union of all the soft parts when divided; in forming the medium of conjunction of fractured bones, and in constructing the walls of an abscess, and of an aneurismal sac. Immediately on the receipt of an injury, also, lymph is shed before there is time for inflammation to set in. The surface of a wound that does not bleed is covered by a layer of lymph, in the very moment that the injury is inflicted. The inflammation which would ensue from the opening of a serous cavity is sometime altogether averted, and almost always restrained within certain bounds by the effusion of lymph, ununiting the opposed surfaces with each other." 38.

After noticing the case of hydrocele, cured by an operation and disposing of it as an objection to his views, Dr. Macartney goes on to remark:—

"It is true, there are some cases of adhesion, which are highly detrimental to the parts concerned. Wherever freedom of motion is necessary to the functions of parts, adhesion may be inconvenient, or fatal. Thus, the iris has its office destroyed by being bound to the adjoining parts: the actions of the heart are embarrassed, by extensive adhesion between it and the pericardium; and I have known the general union of the peritoneal surfaces of the intestines cause strangulation of the whole alimentary canal, and death. It is also the agglutination by lymph, which is the most frequent cause of hernia becoming irreducible, and occasionally of the protruded parts being strangulated. The effusion of lymph in the trachea during croup, causes as much danger as the inflammation: so likewise, when the bladder and urethra are blocked up with lymph." 39.

But, he continues, the circumstance of evil occasionally resulting from adhesion is no proof that adhesion is the consequence of inflammation; and he cites the case of closure of the glottis against irrespirable gases, as analogous—a closure salutary in its intention, though actually endangering life.

Such are the grounds on which Dr. Macartney rests, in excluding the effusion of coagulable lymph from among the products of inflammation. They do not appear to us to be satisfactory.

1. Inflammation is a positive pathological state, marked by certain signs and symptoms. If, after those signs and symptoms, we find pus, or serum, or mortification, we conclude those states to be consequences of inflammation. It signifies nothing what may be the tendency of those consequences, whether salutary or pernicious to the individual. Whichever they may be, they are sequences of the state which we call inflammation.

2. So far as we can see, there are just the same grounds for considering coagulable lymph such a sequence, as for believing serum or pus to be so. A man has a sword run through his belly or his thorax. The familiar signs of inflammation follow, and we find, after death, serum, and lymph, and pus in the peritoneum. Why should we say that the first and the last are the consequences of inflammation while the second is not? Take rheumatic pericarditis, or acute pleurisy, or even inflammation of the cellular membrane. During life and after death there is every possible evidence of the existence of inflammation, and we find lymph in abundance. These are positive facts, which it appears to us impossible to disprove, and almost equally impossible to explain on any other supposition than the one generally entertained.

3. It is no answer to say that lymph is usually salutary in its operation. That may or may not be the case. When lymph is effused on a mucous

membrane, or even around it, or in the cranial cavity, it may be pernicious. And pus may be proved, by the same line of argument, to be no consequence of inflammation; for the formation of pus by an inflamed mucous membrane is infinitely more salutary than that of lymph. Were the latter the usual sequence of inflammation in the urethra, the consequences of a common clap would be formidable.

4. The argument employed by Dr. Macartney, based upon the occasional effusion of lymph as a natural action, is more serious than conclusive. Either, in those instances, the usual phenomena of inflammation precede the effusion of lymph, or they do not. If they do, then the case is one of inflammation—if they do not, then the case is obviously different from that in which they do. Neither in logic nor in reason can it be allowed, that, because in one case inflammation does not precede the effusion of lymph, while in the other it does, therefore in the latter inflammation does not produce the effusion. To make this argument available, it should be shown that, in both cases, the effusion is similar in degree and kind, and that in the latter the same circumstances exist, to operate as causes, which exist in the former.

5. The truth is, that from the simple cut, producing an effusion of the liquor sanguinis, up to the extensive and violent inflammation of peritonitis, is not a sudden jump, but a series of gradual transitions. The mere interruption of continuity of a few small vessels, and the slight stimulus of a trivial injury, give rise to the effusion of no more lymph than is sufficient to glue the edges of the wound. A more extensive lesion, particularly of certain tissues, leads to positive inflammatory action, and to the effusion of lymph in such an injurious quantity. But, as inflammation, in the first instance, is only an augmented capacity and action of the blood vessels, it is obvious that there may be any degree of it between their normal standard, and the maximum of which they are capable. We think it would be just as unphilosophical to deny that the effusion of lymph is a common consequence of inflammation, as to assert that inflammation to any amount *must* precede it. It is impossible to maintain the latter position, until we determine with precision the limit between non-inflammatory and inflammatory augmented action. That has not yet been done.

Ulceration or *ulcerative absorption* is equally denied by Dr. Macartney, the right of being a result of inflammation.

The same spirit of argument is employed by our author in this as in the former case, and mutatis mutandis the same mode of reply may be resorted to. The dispute is, perhaps, more verbal than substantial; yet as we think that Dr. Macartney's views are calculated, in many respects, to breed perplexity, we cannot avoid objecting to them. It would be uncandid not to admit that Dr. Macartney reasons with great ingenuity, that many sound and excellent reflections are mixed up with his hypothetical opinions. All we think it necessary to quote from the remarks on ulceration is the following passage—

The term *ulcer* is not a correct one. It expresses only a part of the history of the object, to which the name is given; or applies to that state in which the ulcerative process only is going on; perhaps, we might say, that in all instances, where either inflammation or morbid structure does not prevent it, the phenomena that belong to an ulcer, are more reparative than destructive; since in many cases of ulcers tending to cure, there is only that degree of interstitial absorption of the granulations which serves to approximate the edges of the sore, thereby diminishing the magnitude of the cicatrix. An ulcer, therefore, as it is usually presented to our observation, is the result of a compound, or rather opposed action, as the granulative, succeeds the ulcerative processes.

Of the different Modes of Reparation.

Discarding the classification generally received of union by the first and by the second intention, Dr. Macartney proposes his own.

Re union, he says, and re-organization are effected in four different ways, which may be designated in the following manner:

First, immediate union, without any intervening substance such as blood or lymph.

Second, the union by the medium of coagulable lymph, or a clot of blood.

Third, re-organization without any medium of lymph or granulations, the cavity of the wound being obliterated by a natural process of growth.

Fourth, the reparation by means of a new, vascular, and organized substance, called granulations.

Speaking of the organization of effused lymph, Dr. Macartney makes the following observations, with which we are disposed to agree, in spite of the opinions of Muller to the contrary.

"Mr. Hunter assumed, that the vessels arose in the lymph, and subsequently established their connexion with the vessels of the part, because, he observed, that vessels began to form in the membrane of the incubated egg, before they existed in the fœtal chick. There is a great difference, however, between the original formation of vessels, and the acquisition of vascularity by lymph, deposited in contact with surfaces that are already organized; and it is more difficult to imagine, that vessels should commence in a clot of lymph or blood, than that they should be extended into it from the adjoining surfaces. It is also impossible to conceive that the thin layers of lymph which unite serous membrane, or the effusion which consolidates cellular structure, do not obtain their vascularity from the adjoining parts. Further, I have seen vessels passing for a short way into a clot of blood, covering the surface of an ulcer, when the coagulum possessed no vascularity of its own. I have also succeeded in forcing injection into the coagula formed in the cavities of the heart after death, which injection presented the appearance of red elongated lines." 51.

Reparation by the modelling process, has never, says our author, been described. However, when healthy parts are injured, although it may be to the greatest extent, if placed under the most favorable circumstances for carrying on their natural actions, the process of reparation is nearly the same as in animals of a simple structure.

"The pain arising from the injury soon ceases. No tumefaction ensues, separating the edges of the wound, and its surfaces are not only disposed to lie in contact, but even to approach each other so much, that they cannot be kept asunder by mechanical restraint; there is, therefore, no necessity for the effusion of lymph; and as there is no cavity to be filled up, granulations are not formed. The surfaces of the wound, although they come into contact, do not unite by vessels shooting across; they are smooth, red, and moistened with a fluid, which is probably serum, and present the appearance of one of the natural mucous surfaces of the body. If any parts have been killed by the injury, they are separated, by simply as much interstitial absorption as is sufficient to set them free. The wound is finally healed by the same means which determine the shape of the natural parts of the body. It gradually diminishes in extent until it is obliterated; or it may be cicatrized before the surfaces are abolished, after which the same process of natural growth goes on, until no part of the original wound is left. The cicatrix which succeeds the cure of injury by the modelling or growing process, is small, pliant, free from those callous adhesions to the parts underneath, and the morbid sensations that so often belong to those cicatrices, which have for their bases the deposits of lymph, or the new formed structures called granulations. When the modelling process or cure by natural growth goes on

perfectly, there is no inflammation in the part, and the patients are so entirely free from all uneasy sensations, that I have known instances of their being ignorant of the real site and extent of the injury, until they had examined the part with their hand, or saw it in a looking-glass." 54.

We confess that we are not familiar with the mode of reparation, and we cannot therefore offer an opinion on the fidelity, or otherwise, of Dr. Macartney's description of it.

Dr. Macartney's observations on granulation are ingenious, but do not require particular notice from us.

Passing over the chapter on Cicatrization, we pause at that on—

Reparation in Different Tissues.

Different tissues possess different powers of reparation. It is difficult to refer those differences to a general law, or to express the facts by any simple formula. But the simpler the tissue the more perfect is its reparation.

It is both curious and instructive to examine the reparative process in each tissue.

A. *Nervous Tissue*.—Vacancies in the *brain* are not filled up by any substance, bearing a resemblance to the cerebral tissue. *The spinal marrow* also is never regenerated.

All wounds of nerves heal by the formation of a hard bulb or nodule; this exceedingly firm and condensed structure is found uniting the two ends of a divided nerve, and also surrounding the part of which it had been cut in amputation; therefore, this is the natural mode of healing of a nerve, whether by the medium of the lymph or granulations. Though visible nervous filaments have been fruitlessly sought for in the nodule, sensation and voluntary motion are restored, sooner or later, beyond it. In some parts, the nerves naturally present a very condensed structure—the posterior tibial nerve, for example below the inner ankle.

"When the nerves are divided some way from the end of the stump, I have been able to trace the appearance of filaments radiating from the bulbs and proceeding to the skin. A preparation of this kind in the stump of a finger, was preserved in my anatomical collection, which is now in possession of the University of Cambridge. Professor Muller states, that his assistant, Dr. Schann, was able to dissect filaments passing from one end of a divided nerve to the other in the frog. Also, it cannot be doubted that the sensibility of granulations is caused by the extension of nervous filament into them.

I once had the digital nerve of my thumb divided by a wound. The sensation was not perfectly recovered for some years, but is now as complete as before the accident. I observed a curious fact on this occasion. I was aware, from the depth of the wound, that the nerve must have been divided, and I was surprized that the sensation was not instantly lost; but, while examining the part, the sense of feeling vanished, giving me the impression of a blast of air having passed from the thumb up my arm. This occurred in about two minutes after receiving the wound." 68.

B. *Muscular Tissue*.—Probably this is never perfectly restored in the higher classes of animals. The deficiency is commonly seen to be partially filled up by a pale substance, which appears to be coagulable lymph imperfectly organized.

C. *Fibrous Tissue*.—When *tendon* is divided, and afterwards united, it is by means of a newly-formed condensed substance, not possessing the true structure nor the brilliant metallic lustre of tendon, yet sufficiently strong to perform its offices. If tendinous structure do not unite, as in the laceration which occurs in a dislocation, the tends of the fibrous tissue form a number of tags or little bulbs, by the effusion of coagulable lymph; these become

very hard, and finally smooth on the surface. It is said that the *dura mater* is not reproduced. A dense membrane, however, is formed, which answers a similar purpose. The only fibrous structure which is perfectly regenerated, is the *periosteum.*

c. *Cartilaginous Tissue.*—The *cartilages* covering the ends of bones, when destroyed, never appear to form again. In old persons, especially, the place of the cartilages of the joints is often supplied by the conversion of the osseous tissue into a substance possessing the density, hardness, and polished surface of china or white glass. Yet in *false joints*, the ends of the bones that rub on each other become covered with a sort of spurious cartilage.

A vacancy in the cartilages of the larynx is filled up by a tough dense cellular substance. The cartilaginous portions of the ribs are not reproduced by genuine cartilage, and the union of these parts is often confirmed by being sorrounded with a shell of bone.

Dr. Macartney doubts whether the place of the fibro-cartilages is ever supplied, except by a tough cellular structure, not unlike common ligament, but wanting its brilliancy.

e. *Serous Tissue.*—This seems as perfectly restored as any tissue, saving, perhaps, the cellular.

f. *Cutaneous Tissue.*—Neither the skin nor mucous membrane appears to be perfectly restored. The villous surface is not regenerated.

g. *Arterial Tissue.*—The middle coat has not been observed to be regenerated. The puncture of an artery is closed by condensed cellular membrane.

h. *Venous Tissue.*—"The proper tissue of the *veins* never grows again. I have always observed that veins on which venesection had been performed, presented on the inner surface a depressed line corresponding to the incision made with the lancet. The vacancy in veins being always closed by the cellular membrane somewhat condensed, accounts for those little pouches that are occasionally perceived over the vein, when the edges of the puncture have not been brought together after the operation of bleeding. These pouches are often seen, and sometimes of a large size, on the veins of horses, in consequence of the mode employed by farriers of pinning the edges of the wound, made in bleeding these animals, and the horse being allowed to stoop the head after the operation. There is no true venous tissue found in these pouches. 71.

i. *Osseous Tissue* is repaired by bone, in a manner that we need not specify. We regret that we have not space for Dr. Macartney's observations on necrosis. At a future opportunity we shall advert to them.

k. *Epidermoid Tissues.*—The reproduction of these, subjected to attrition, &c. as they are, is usually a process similar to that of their growth.—But when the secreting apparatus is destroyed, the product cannot well be reproduced. Thus, when the capsules which contain the roots of the hairs are destroyed, the part continues bald.

"If the vascular surface which furnishes the horny substance of the nail, be completely destroyed, no new nail is usually formed; nevertheles, there appears to be sometimes a great disposition to the revival of the proper structure for secreting the nail. It reappears, in some cases, after caustic has been repeatedly applied to it, to prevent the reproduction of a nail which penetrates the skin. Two instances are recorded of a nail growing on the stump of an amputated finger; and I had a preparation of a finger, which had the last and a part of the second joint removed by amputation. The vascular structure had been produced on the stump, and a true horny nail generated; which, however, had a deformed appearance, and was very

much hooked. This preparation is now with my collection placed in the University of Cambridge." 77

As nail is only a modification of the horny or epidermoid tissue, we cannot be astonished at the occasional production of a modification of it. We say modification of it, for it is unlikely that perfect nail could be formed without a matrix. Dr. Macartney admits, that, in his case, the nail had a deformed appearance, and was very much hooked.

We arrive at the Chapter on the—

Corstitutional or Remote Cases of Inflammation.

This contains some ingenious hints mixed with much that must necessarily be familiar. We shall only pick out one or two insulated passages for notice.

a. Speaking of sympathetic morbid sensations, Dr. Macartney remarks:—"I remember a very curious instance, in which I discovered a stricture in the œsophagus, by the person feeling an acute pain in the little finger of the left hand every time he swallowed." 84.

b, It is well known that the suppression of natural secretion or of habitual discharges, may prove a cause of Inflammation. The explanation generally consists in supposing that the blood or the system becomes charged with the peccant matter previously evacuated. But Dr. Macartney observes, that, generally speaking, the mischief occurs before there is time for the circulating fluid to become redundant, in consequence of even extensive secretions being interrupted ; and in many cases, the discharge which is stopped, is so insignificant, as to quantity, as to be incapable of producing any influence on the mass of blood.

We must, therefore, he continues, adopt some other explanation for the suppression of secretion becoming the cause of inflammation, than the disturbance of the balance between the quantity of the circulating fluid, and that of the discharge which has been suspended. It is probable, that the interruption of the secreting function, in any one part of the arterial system, and especially on sentient surfaces, may, from the law of sympathy, which is so remarkable between the vascular system and these surfaces, become a direct motive to the arteries to assume, in certain places, an inflammatory state. This mode of explanation is rendered more probable, from the fact, that the removing very slight external irritation, or inflammations, which furnish very little or no pus, sometimes causes the most severe constitutional disturbance, which is removed, by the recurrence of the local irritation.

We think there can be little doubt of the correctness of this explanation. It is not the mere suppression of discharge, but the alteration or repulsion of a mode of action that affects the system. Suppose some habitual vascular excitement or congestion in a given point. If that is suddenly repressed, some other part in the vascular circle, by the operation of the perplexing law of sympathy, becomes the seat of congestion or excitement. That vascular plethora is mixed up with this, seems, however, to be proved, by the security which, under such circumstances, evacuant medicines offer.

"I have seen," says Dr. Macartney, "the most serious diseases endangering life, induced by the cure of that slight cutaneous affection of the cheek, which sometimes is a mere effloresence, periodically throwing off a little fur-fur, or forming a crust. Dr. Jenner once shewed me a red spot on his wrist, that could be covered with a sixpence ; he said, whenever it faded, his stomach and general feeling of health were affected." 87.

But in cases like Dr. Jenner's, it is more likely that the general disturbance was due to some modification of the state of the internal organs, than to the influence of so trival a cutaneous eruption. The latter was in all pro-

bability a symptom. When present, it shewed a condition of internal organs compatible with health. When a contrary condition of those organs ensued *it* subsided.

c. Dr. Macartney is eloquent on the subject of "taking cold." Of all parts of the body, he says, the back is the most susceptible of cold, thus insidiously applied, and the chilliness is sometimes even felt first along the back, although it may not have been the part immediately exposed. Perhaps this circumstance depends on the nerves of the skin of the back having so direct a communication with the spinal marrow.

Dr. Macartney follows this up.

"In the same manner, when a person is placed in the situation favourable to giving cold, the danger may be avoided, by turning the face instead of the back to the direction of the stream of cold and damp air, observing the sensation caused by the impression, and voluntarily rousing himself to a feeling of resistance. In protecting the body by clothing, the back is the part chiefly to be regarded, and hence winter waistcoats should have the back made of at least as thick materials as the front. People commonly fall into the error of clothing the front of the body warmly, and expect to escape cold by muffling the throat. The Irish peasantry more wisely, expose the throat and breast, and defend the back by a warm great coat, which they seldom close in front." 89.

So that the idea of Pat's having "his coat buttoned behind to keep his belly warm" is a libel on him. He keeps "his belly warm" by not buttoning his coat at all.

The Local Causes of Inflammation,

Form the subject of the next Chapter.

Dr. Macartney's observations are both numerous and judicious. But they are scarcely suited for our pages, containing, necessarily, much familiar matter. We may quote the following passage, with the expression of a hope, rather than a confident expectation, that Dr. Macartney's ideas may not be of too sanguine a complexion. Speaking of the effects of dead animal matter introduced into the body or merely applied to the skin, he observes—

"Every anatomical class has annually furnished examples of the effects of this species of infection, except the dissecting class of the Dublin University, during the time it was placed under my direction. Very simple means of prevention were employed, with so much success, that no severe disease from wounds received in dissection occurred, (when the proper means of prevention had been employed,) during the last fifteen years that I held the Professorship of Anatomy in that University. The means resorted to, consisted in immediately washing the wounded part, and afterwards keeping it wet for a few hours, with a solution of alum in water. Most probably, any other fluid, such as the liquor plumbi, solution of sulphate of zinc, &c., which would have the effect of coagulating the animal substance, would answer quite as well; but the solution of alum was always at hand, and, I believe, if immediately applied, would never fail in preventing infection." 104.

Dr. Macartney remarks very justly, that the two stages of decomposition in the dead body, which render the animal substance most dangerous, are that which takes place immediately after death, and the extreme degree of putrefaction. The latter is most apprehended, but it usually occasions only a diffused inflammation in the part wounded, without any serious sympathy of the constitution.

Some dead animal substances, he goes on to say, are more likely to communicate this dangerous disease, than others. The brain, in the recently

dead body, is extremely apt to produce it, even when no wound is received. The sero purulent fluid, found in the large cavities after death, (if no means of prevention be employed,) seldom fails to infect persons; and the most dangerous animal fluid is that contained in the cavity of the abdomen, after puerperal peritonitis, or the serum found in parts which have suffered diffused or gangrenous inflammation. The white cancer of the liver, and the substance of medullary tumors, are found to be very irritating, when merely applied to the hands, without a breach of surface. Dr. Macartney has several times had his hands inflamed from handling this morbid structure, even after it had for some time been preserved in spirit.

"Some persons are more susceptible of the infection from dead animal matter than others. I have heard of a student who never escaped it, after receiving a wound in dissection. I have, myself, so strong a tendency to be affected by the irritation of animal matter, that I formerly suffered more or less every year from this cause. Since, however, I adopted the means of prevention already mentioned, I never have experienced either local inflammation or constitutional illness, after wounds received in dissection. That there is no diminution of my susceptibility, is proved, by my still having red patches on my hands, which itch and smart, if I dissect a brain, without continually wetting my hands with the alum water." 107.

We have only twice suffered severely from handling dead bodies. It is singular that each time it was after examining a person who had died from scarlet fever, and in neither instance was there the slightest evidence of our having received a wound. On the second occasion, the local symptoms were succeeded by a sort of erythematous affection of the throat, a true secondary symptom.

Dr. Macartney remarks, that the secretions of the human body, when they are accumulated in foul clothes, occasionally produce a dangerous and obstinate inflammation of the hands of washerwomen. He has never seen this followed by more than common sympathetic fever. But ill-conditioned abscesses may occur, and the limb may even be lost. We have twice seen, in washerwomen, and after washing suspected linen, inflammation of the deep cellular membrane of the hand, diffusing itself along the fore-arm, beneath the annular ligament, and between the muscles. Each case proved fatal.

Dr. Macartney goes on to observe that—The dead substance of other animals, besides that of the human subject, although less dangerous, is capable of infecting somewhat in the same way. Persons who clean tripes are liable to a peculiar erysipelatous inflammation, which passes up one finger and down another. The same has occurred from paunching a hare, and horse-killers occasionally suffer severe diffused inflammation. The fluids of the recently killed animal are, however, much less irritating, than the same in an advanced state of putrefaction, and hence butchers seldom are known to suffer from wounds received in the practice of their business; although, as already observed, the greatest power of infecting, belongs to animal substances immediately after death with respect to the human subject.

Dr. Macartney does not mention, at least in this place, any special treatment for this affection. Sir B. Brodie recommends the oxymuriate of mercury. We have, on several occasions, seen small doses of blue pill with saline aperients, and the application of a strong goulard poultice, remove the affection in a day or two.

We proceed to the

Proximate Cause of Inflammation.

We must pass over the Chapter on this subject. There is much in it, which, if we discussed, we must dispute; and there is also much that is certainly ingenious and probably true. We must pass, too, over the succeeding

Chapter on the Species of Inflammation, which contains nothing of consequence.

On Congestion as contra-distinguished from Inflammation.

It is obviously of great importance to distinguish, during life or after death, the two pathological states of congestion and inflammation. Dr. Macartney devotes a short Chapter to the subject, and points out some criteria which he deems decisive.

Congestion, he rightly observes, belongs to the venous system. It is caused by any mechanical impediment to the free motion of the blood in the veins; such as obstruction to the circulation of the blood in the liver, the lungs, or other important organs, or by pressure on the trunk of any vein. It is also brought on by the suppression or diminution of natural secretions, and by supplying the body with more nutriment than is expended in growth or secretion. It is sometimes induced, and always favored by dejection of mind and sedentary habits, which serve to accumulate the blood in the venous system, and to embarrass the circulation.

Every impediment to the passage of blood through the small veins, necessarily renders its passage slow. But the blood also appears to be very fluid, at least it transudes in many cases through the coats of the veins into the neighbouring cellular membrane. The blood, in congestion, is either purple or still darker; in melæna, the blood poured out is black.

"The most remarkable circumstance, with respect to congestion, and the one which has not hitherto been described is, that arteries found in a congested part are smaller than their natural size." 140.

After a few other observations, Dr. Macartney goes on to remark—

"In order to ascertain the direct effect of venous congestion, on the arteries of the part concerned, I made the following experiment: I put ligatures on both the jugular veins of the rabbit; the animal died apoplectic, and upon examining the state of the vessels of the ears, I found the veins which lie towards the outer edge of the ear, greatly enlarged, and gorged with dark blood; but the artery, which runs in the centre of the ear was reduced very much below its natural size, so that it appeared as a mere line. The result of this experiment made me wish to see what would be the instantaneous effect of arresting the venous circulation. I accordingly exposed the mesentery in a young rabbit and having tied the trunks of several mesenteric veins, their corresponding arteries contracted immediately, in the most palpable manner, and to a very small size; as if taught by their organic instinct, that blood should not be permitted to go where it must immediately return.

From the description just given, congestion never should be confounded with inflammation. They are essentially different in all respects: the uniform and dark red colour of a part in a state of congestion, as constrasted with the brighter red colour, and distinctly ramified arteries in inflammation ought at once to be sufficient to point out the difference between these two affections." 141.

Dr. Macartney concludes by laying down the distinction between congestion and determination of blood.

When blood, he says, is sent in too great a quantity to any part, it is because the arteries of that part dilate beyond their natural state, in consequence of some excitement of particular organs; and therefore, the sensibility, temperature, and bright red colour of the parts are increased: whereas, in congestion neither the sensibility nor temperature is augmented. Determination of blood may itself be easily distinguished from inflammation, by the general appearance, by the canses, by the absence of any of the consequences of real inflammation, and especially by the want of the peculiar

pain, which would belong to the tissue concerned, if its turgescence or fulness of blood had arisen from inflammatory action.

It appears to us, that determination of blood to an organ, is a state by no means accurately defined, or definable. If Dr. Macartney's account be correct, it is difficult to say in what determination of blood differs from the earlier stage of inflammation. Probably determination of blood is a state which may end either in inflammation or congestion, as concurrent circumstances may determine. The phenomena of several cerebral affections appear to point out a much closer connexion between the determination of blood and congestion, than Dr. Macartney is willing to allow. We proceed to the last Chapter of the work, which treats

Of the Remedies for Inflammation.

Dr. Macartney classifies these remedies under the following heads—

1st. Remedies which diminish the force of the heart, and give the disposition generally, to the small arteries to go into the contracted state.

2nd. Means that effect a diminished size of the arteries, or reduce the sensibility in the inflamed part.

3rd. Medicines that augment or reproduce the natural secretions, and thereby abate the circulation, or lessen the effusions made into inflamed parts.

4th. Counter-irritations, secretions, or impressions made in different parts from those which are inflamed.

5th. Lotions or fluids which exert sedative and astringent power.

6th. Means for affecting in an agreeable manner, the sensation of inflamed parts.

7th. Causes which produce an easy or satisfied state of feeling, on the sentient surfaces, or in the individual.

Speaking of tartar emetic, Dr. Macartney professes himself unable to understand on what grounds, the very large doses of the medicine, now so fashionable, are prescribed. Small and frequent doses, he contends, are sufficient to produce all the effects that are desirable. If one grain of tartar emetic be dissolved in a pint of water, and a table spoonful of this solution be administered every half hour or hour, an extreme degree of nausea will certainly be excited, with a reduction in the strength and frequency of the pulse, and usually some perspiration. The good effects of nausea depend on its being kept steadily up for some time. But as Dr. Macartney observes, preparations of antimony act on some peculiar constitutions as a mineral poison, producing an alarming degree of prostration and distress. He has known these medicines also, when long continued, sometimes induce tenderness of the gums, an increased flow of saliva, and a cadaverous fœtor of the breath.

Cold applications.—Dr. Macartney makes some good remarks upon these. The sudden application of cold induces a re-action. But it must be remembered that it is the sudden application of cold, *speedily withdrawn*, which does so. If the cold be maintained, there is no re-action. Dr. Macartney advises that the cold should never be suddenly applied, nor suddenly withdrawn. The inflamed part should be, as it were, seduced to surrender its temperature willingly, until the power of resistence or of re-action be past, and in carrying it back to the natural state, the same principle should be followed.

"The best example of the power of low temperature to cause contraction of the arteries, is seen in what is called *a dead finger*, in which, there is neither circulation nor feeling, a fact I had the opportunity of proving lately by a direct experiment on a person whose thumb was benumbed in this manner. On making a cut into it with a pair of scissors, no pain was felt, nor did any

blood issue from the wound, until the sensibility and circulation returned: now, this extreme case never occurs in the most intense frost, but always when the atmosphere is damp, and not severely cold." 157.

We were not aware of the last mentioned fact, nor does it seem consistent with what we hear of the effects of very low temperature. Our author believes that the remedial operation of a modern degree of cold is in the majority of cases preferable. It is usually imperfectly attained by the evaporating lotions in common use. Dr. Macartney describes his ingenious method of obtaining, for the part, the uninterrupted operation of cold and moisture.

"The most easy and manageable way of employing irrigation, is to place the limb of the patient in a trough, and having laid some lint on the inflamed part, to let the water be conducted by means of a stripe of woollen cloth, from a vessel holding the water or other fluid, which may be placed on a chair or table standing beside the bed. One end of the stripe is to be inserted into this vessel: the other, which should be cut into a pointed shape, laid on the lint. The water will then proceed in the manner of a syphon continually from the vessel, not by drops falling from a height, the sensation of which is disagreeable. The water is carried off by a tube proceeding from the end of the trough, into a vessel, placed at the end of the bed. I have found that a stripe of cloth of some breadth, where it is inserted into the water, and ending in a point, where it touches the lint, answers the purpose of a syphon much better than the filaments of candle-wick, which some surgeons have employed. The patient with this apparatus is able to vary his position, which is a great comfort to him. It is obvious, that irrigation can only be used with convenience to the extremities. The water may have any degree of temperature that is desired, and if it should be wished to employ iced water, the vessel holding it may be placed at a distance from the patient's bed, or even outside the room, and conveyed by an elastic tube, on which there is a cock to regulate its admission into a smaller vessel, situate near to the bed." 159.

Our author goes on to state, that the mode of maintaining a continual accession or renewal of a fluid application, may be converted to many useful purposes. Professor Wiedleck has availed himself of it in the construction of his chair: in the back of which is placed a reservoir of fluid, from whence a tube passes underneath the seat, to the front of the chair, where it is connected by a stop-cock with a catheter, which has been previously introduced into the bladder. This catheter is double internally, or has two passages, each with an opening into the bladder, and the handle of the instrument exhibits the two distinct tubes, into one of which, the end of the elastic tube which is furnished with a cork is introduced. The fluid from the reservoir is thus conveyed by one side of the catheter, and is returned by the other, and consequently, there is a sort of stream carried through the bladder. He has used the apparatus for chronic inflammation and catarrh of the bladder. And Dr. Macartney has contrived a tube on the same plan, for transmitting a continual stream of fluid through the vagina or the rectum. Dr. M. has likewise invented a glass vessel, something like a cupping glass, but larger, with two tubes entering it, one which admits the fluid near the top, and another near the bottom that allows it to escape. This vessel was designed for cleansing foul ulcers or cancers; but might be used for the purpose of abstracting the heat, by a stream of cold water, or for administering medicated fluids to external surfaces, if flat, in the same manner as the double canula conveys them to the internal cavities. And he has further proposed, that the principle of the double passage should be extended to the tube of the stomach-pump; by which, he thinks, the effects of the instrument would be rendered more certain and speedy.

Dr. Macartney particularly insists on not applying cold too suddenly, when

we wish to get the lowering effects of cold. To obviate re-action, the temperature of the part should be gradually reduced. In all cases where hemorrhage is to be apprehended, the use of ice or iced water is most valuable, and may save the patient from the application of ligatures to small arteries. Dr M. has treated cynanche tonsillaris by the frequent use of a gargle of iced water, with remarkable success. The disease has been by this means arrested in a few hours. He has also found ice effectual in stopping obstinate hiccup, when all other remedies had failed.

"Ice or iced water is better for the purpose of generating a great degree of cold, than any of the frigorific mixtures. Some of the latter would congeal the part, none of them would be proper with a raw surface, and it is rarely necessary to reduce temperature in an extreme degree, without the existence of a wound. When they are proper it may be useful to know, that the mixture of five parts of muriate of ammonia, five parts of nitre, and sixteen parts of water, sinks the thermometer from 50 degrees to 10 degrees; equal parts of nitrate of ammonia and water reduce the temperature from 50 degrees to 4 degrees, and five parts of sulphate of soda, with four parts of diluted sulphuric acid, bring down the instrument from 50 degrees to three degrees." 161.

Moderate cold is generally suitable when the inflammation is not very violent, and is accompanied with heat. Irrigation with cold water, especially in the Summer months or in warm climates, is the most convenient mode of applying it. As a general rule, the feelings of the patient are a valuable test of the propriety of warm or cold applications.

Waiving the discussion of the effects of mercury, saline purgatives, and baths, we may pause and examine the operation of counter-irritants. We do so, because we are not quite certain that remedies of this description are always employed in a really scientific manner.

Counter-irritants are divisible into mere rubefacients—vesicants, or such as give rise to secretion of serum or lymph, and sero-purulent fluid—applications which induce suppuration and ulceration, as tartar emetic—and applications which first destroy the skin and cellular membrane and give rise to suppuration afterwards, as the caustic potass, &c.

Dr. Macartney observes, that the milder counter-irritations are suited to diseases near to the surface, or which are situated opposite to the skin to which the application is made. The cautery or severe caustics are only justifiable, where the disease to be counteracted has a deep situation, and has a variety of interjacent structures, as in the hip disease and caries of the vertebræ.

He remarks that all counter-inflammations should be of a kind that naturally tend to subside. This is quite obvious. If an artificial inflammation, he adds, be carried so far, as to join or communicate with the original disease, it becomes mischievous; for, it is essential to the operation of any counter-irritation, that the parts placed between it and the internal disease, should be entirely free from inflammation, although they may be very thin, and consequently the two inflammations very near each other.

"If the inflammation from the previous disease, and that induced by the surgeon, be kept perfectly separate, although near each other, the influence of the latter is very considerable in diminishing the former: nevertheless, the original disease does not appear to possess any power over the counter-inflammation, either in diminishing or increasing it. This fact is difficult to explain; indeed, the mode of operation of any counter-irritation is very obscure; perhaps it is because the artificial disease being always disposed to cease or recover, creates the same tendency in the original inflammation." 166.

It does not appear to us that the difficulty is, theoretically, so great as Dr. Macartney represents it. Counter irritation is principally used and useful for diseases characterised by increased vascular action and determination of blood. If we can set up an action and determination in contiguous vessels, it is easy to suppose that we may diminish the quantity of blood in those concerned in the disease, and consequently the diseased action itself. We see these variations in the balance of the circulation continually. A woman who is menstruating has generally a pallid face and a mottled complexion from the diminution of the vascular supply to the surface. The feet are cold when the cerebrum is oppressed with blood. The same state of the cerebrum is relieved by active purgatives, which determine the blood to the lower bowels. We might multiply instances of this sort, and follow out the argument more in detail; but we think we have said enough to render it probable that the action of counter-irritants is tolerably explicable on admitted principles.

"*Sinapisms* are counter-irritants of more value I believe than is generally supposed; the rapidity of their action is of importance, and the redness which remains on the skin for a considerable time, is an advantage, that does not belong to any of the milder kinds of counter-inflammations. From observing the good effects of blisters in gonorrhœa, gleet, and irritable bladder, I am disposed to think that sinapisms might be more useful in those diseases. I have found sinapisms very effectual in removing the inflammation of the tonsils in some cases." 167.

Of blisters, Dr. Macartney says that, in general, they are suffered to remain too long before they are cut, unless it be in persons with strong skin. It is usually sufficient that the skin be inflamed, the serum will continue to flow at the first and second dressings. When it is designed to heal a blister soon, the water dressing should be used in place of any ointment. With some persons, he continues, blisters continue to form serum, and there is no tendency in them to heal. In one instance the blister remained open for weeks. In such cases the discharge is speedily stopped, and the blister healed, by sprinkling over its surface, a powder composed of equal parts of lapis calaminaris and cinchona, and using the water dressing over the part, to prevent the powder encrusting on it.

Dr. Macartney states that there is a plaster made by only one person in Paris, for maintaining a purulent discharge on a blistered surface, which is much preferable to savine cerate. It is paper on which there is a soft plaster very thinly spread; there are two kinds, one milder in its operation than the other, but they both keep up a secretion of pus, from a raw surface, apparently for any length of time, without inducing as much irritation as the savine cerate occasions in a few days. It is made and sold by *M. Albespeyres*, Rue du Faubourg St. Dennis, No. 84, Paris. The composition of the plaster is a secret.

Such are the principal remarks which Dr. Macartney offers upon counter-irritants. We would observe, that *à priori* it appears reasonable, and experience, we think, bears out the presumption, *that* the mode of counter-irritation should have a sort of physiological relation to the primitive morbid action. Thus, in diseases characterized by a tendency to effusion of serum and lymph, blisters are advantageous; inflammations of the serous and synovial membranes are examples of the fact. In chronic diseases, especially in such as are disposed to end in the formation of pus, those counter-irritants which produce a secretion of pus from the surface generally answer best; thus in ulceration of the cartilages of the joints and in caries of the vertebræ, setons or issues are preferable to blisters. In the slighter morbid actions which consist of determination of blood, rubefacients are often sufficient. In the more sudden or severe determinations, which amount to inflammation, the positive abstraction of blood from the neighbourhood of

the large vascular trunks is indispensably requisite. Without pushing this view of the subject too far, we are justified in recommending it as a general principle of action, and in considering it far from useless.

Dr. Macartney proceeds to the *Different Medicated Lotions.*

He speaks very highly, and we cordially agree with him, of the dilute liquor plumbi subacetatis. The following, however, is a greater amount of success than we should have expected from it.

"The lead lotion never fails to cure tinea capitis, however long and obstinately the complaint might have resisted other remedies, provided the application of the lotion be properly conducted. The hair should first be cut close to the head, but need not be shaved off; water dressing or a poultice of any kind is then to be applied, merely for the purpose of cleansing the skin of the crusts, and all other impurities. There will then be seen under each crust, a red spot of the skin, denuded of its cuticle, and the villous surface exposed. The lotion should now be applied by means of lint thoroughly wetted with the fluid, and covered with a plate of Indian rubber, or a piece of oiled silk to prevent evaporation. Every time this dressing is changed, which should be very frequently at first, the head should be washed with some of the lotion, and the lint should be replaced by some that is clean, which is to be completely wetted with the lotion, and covered as before." 173.

But the application must not be suspended for one night, nor even for a few hours; the crust will re-appear if it is so. We have often used the lead poultice for ezema of the scalp, but we cannot ourselves speak positively to its utility in genuine porrigo.

The next set of local remedies to which Dr. Macartney proceeds, is that which gives rise to *an agreeable state of feeling* in a part or in the the whole of the body. The most powerful of these means is *steam;* Dr. Macartney describes a simple mode of applying it, for which we must refer to the work itself. The use of *water* at all temperatures is strongly advocated by our author, and the *water dressing*, already often alluded to, is his favourite method of employing it.

"The substance that I have generally made, the immediate object of application, is the finest and softest lint: and for the covering material either oiled silk or a plate of Indian rubber. Simple as this mode of dressing may appear, it requires to be managed with care, and attention to many circumstances, which would appear trivial, to persons unacquaintanted with the nature of the remedy. Two, three, or four layers of the lint should be first folded together, according to the size of the part to be covered, taking care also that the soft side of the lint is the outer one. In wetting the lint the first time it is necessary to either float it in the water before folding it, or if it be first folded, it should be pressed between the fingers, to urge the fluid into the interstics of the lint, which receive fluid with difficulty, until all the air they contain be expelled. The lint, when applied, should just contain as much water as not to drop. The oiled silk, or India rubber should project so much beyond the margin of the lint, as may prevent evaporation, which will vary according to the shape of the part on which the dressing is laid, and the thickness of the folded lint." 181.

The lint should be wetted, without any bandage, as that might rise to a feeling of constraint. It is, therefore, sometimes necessary to stitch the silk into a particular shape. As a general rule the lint should be changed three times during the day and twice during the night. In cases, where the inflammation is moderate, and the skin unbroken, the dressing will only require to be changed every twelve hours. At each time the dressing is renewed, the lint and oiled silk should be carefully washed, and when it is applied to ulcers, fresh lint should replace that taken off, the utmost cleanli-

ness being of the first importance. French oiled silk is much superior to English, as it does not adhere to the skin. When it is desirable to combine cold with the water dressing, a bladder holding iced water may be laid over the oiled silk, or where the comfort of warmth may be required, the dressing may be covered with flannel.

Dr. Macartney denounces poultices. It seems to us that he does them an injustice, when he declares that a poultice is made of materials, which, in a term far short of its renewal, become sour, and thereby render the poultice, after the first few hours, an irritating application. The greasy substances which is adhering to the skin, do not always answer the end, and soon become rancid. A poultice favours the formation of pus, and causes a throbbing or pulsating pain, and feeling of tenderness in the part, which are the natural attendants on the process of suppuration. It imbibes the pus it serves to create, and thereby becomes more irritating. A poultice, before it is many hours on, is a mixture of farinaceous substance, rancid oil, and pus, oppressing the part by its weight, and beginning to adhere round its edges to the skin, creating a sense of constriction. In proportion to his dislike of poultices is his regard for water dressing. He speaks in the most laudatory terms of it.—That he is well disposed to believe every thing in favour of it must be evident when he states *that* it puts *boils* completely under our control; *that* he has received numerous account of *gonorrhœa* being cured in one or two weeks by the external application of water to the penis; *that* it never fails to eradicate corns, *if* used long enough; *that* ganglia are removed, and loose cartillages, he thinks, may be so too, by it; *that* tetanus can hardly come on when it is employed. All these are confident opinions, and evince a very strong predilection for water dressing.

Dr. Macartney offers some very good observations on, the effect of repose, proper position, change of air, exhilaration of mind, confident anticipations, and so forth. The following extract is curious.

"A new, and at first sight, a very singular mode of treating wounds and ulcers has been proposed by Dr. Jules Guyot. He published his views in the Archives Generales de Medicine, and afterwards he printed an extract from the Archives in the form of a pamphlet in 1835. The object of Dr. Guyot is simply to expose recent wounds of all descriptions, and ulcers, to hot and dry air, with the view of forcing a scab to form, by drying the clot and serum of a wound, or the pus of an ulcer. He made his first experiments on rabbits, on whom he inflicted several wounds, and afterwards placed the animals in a box having apertures, through which their heads projected.—The air contained in these chambers was heated by a spirit lamp, generally to 25 degrees of Farenheit, and sometimes higher. The animals were secured so that they could not move. Their wounds wept at first serum, but as they dried, their edges approached each other. In some cases no tumefaction, nor appearance of inflammation was observed; in others suppuration took place after some days, underneath the crust; but by a longer exposure to the heated air, the pus thus formed, also dried ultimately into a thin scab. After it was removed, the wound was found to have been perfectly cicatrized underneath.

Dr. Guyot was not so successful in getting ulcers in the human subject to heal in this manner. After two or three weeks' trail, he was obliged in some cases to relinquish it, the patients not being able to bear the fatigue of having the limb so long confined to a box, without any change of position; nevertheless he did succed in curing by the process of scabbing some ulcers of long standing and of an obstinate character, although pus formed again and again under the dried films which covered the ulcers. Dr. Guyot imputes great virtue to the heat, but it would seem to be merely instrumental to the drying of the serum, lymph, or pus which may happen to lie on the wounds or ulcers." 208.

We do not anticipate much from this. But we must quit Dr. Macartney. We think our readers will agree with us that much instruction and more pleasure may be derived from a perusal of Dr. Macartney's volume. That gentleman has the good wishes of all on his retirement from the lecturer's chair.

Part III. MONTHLY PERISCOPE.

Strychnia in Retention of Urine. In the Eclectic Journal we find extracted from the Medical Gazette, a case of retention of urine successfully treated with strychnia, by Edward A. Cory, M. D. The patient had been delivered a few hours previously, of a first child, after a tedious and severe labor, since which time she has passed no urine. She was in great pain, which was considerably relieved by the introduction of the catheter. The atony of the bladder however, still continued, and it became necessary to resort to catheterism twice a day for three weeks, during which period, there was not the slightest ability to void the urine. Soon after delivery, symptoms of peritonitis were evident, but were removed by an antiphlogistic treatment. Finding that the inability to pass urine continued, Dr. Corry resorted to the use of strychnia, of which he gave one sixteenth of a grain three times a day. To his surprise, after taking the second dose, the patient was able to pass her urine *sua sponte*, and with ease and comfort to herself. The medicine was continued until one grain had been taken. There was no return of the retention. We think the strychnia worthy of a full trial in such cases, though we must confess, that were it not for the known effects of the article in paralytic states, the suddenness of the relief, after so small a portion of the medicine, would have led us to consider it rather a coincidence than a cure.

Pathology of Porrigo. The observations of Basse and Audouin on the nature of Muscardine, a disease to which silk worms are subject, had proved that it was owing to the growth of minute fungi on the animal. Professor Schoenlein, of Zurich, has been led to examine under the microscope, some cutaneous eruptions. On the first examination of a pustule of *porrigo lupinosa*, he satisfied himself of the vegetable and fungous nature of the pustule. Prof. Schoenlein is busily employed in prosecuting this subject, and means soon to publish the results of his investigations.—*Miller's Arch. from London Med. Gaz.*

Quinine in the Urine of individuals to whom it has been administered in large doses. By M. Quevenne. The researches of M. Piorry, on the presence of quinine in the urine, led the author of this communication to publish some analogous researches, which he has made on the urine of an individual to whom M. Leroy administered 60 grains of the sulphate of quinine during the first day of a malignant fever, 60 grains on the second, and 110 grains on the third. Two and a half ounces only of this urine being remitted to him, he was not able to subject it to all the experiments which he desired to make. After having treated this urine with various re-agents, and having submitted it to many operations which we cannot detail, M. Quevenne obtained a limpid solution which possessed in a high degree the bitter taste of quinine, and exhibited, when examined in a reflected light, that blueish aspect peculiar to the salts of quinine. This solution exposed to an air bath deposited slender bands which, upon microscopic examination, were composed of beautiful prismatic needles, entangled in each other. Some of these prismatic needles were about 15-100 millemetre and 1-400 in breadth. They were obliquely truncated at their summit. Evaporated to dryness the solution furnished a crystalline residuum very bitter and soluble in alcohol.

The author draws from his analysis the following conclusions—

1st. Quiuine or its sulphate may pass mto the urine of persons who make use of it.

2nd. Tannin is a most excellent re-agent to isolate vegetable alkalies, since in this instance it was able to recover a very small quantity of quinine which was dissolved in a liquid of a very complex nature.—*Gazette Medicale.*

On the Effect produced upon the Pulse by change of Posture. By William Augustus Guy, M. B. Cantab. There is a paper on this subject compiled with great care from many and well conducted experiments. The paper is of too elaborate a description to permit us to enter into its details, and all that we do is to present the summary given by our author, Dr. Guy, of the facts which he seems to have made out. The summary in question is short, but sufficiently explicit. Those who are anxious to become acquainted with the data upon which it has been founded, will do well to consult the original paper. That is essentially of a numerical character.

1. In healthy males of the mean age of 27 years, in a state of rest, the number of the pulse is, standing 79, sitting, 70, and lying 67 ; the difference between standing and sitting being 9 beats ; between sitting and lying, 3 beats ; and between standing and lying, 12 beats. When all exceptions to the general rule are excluded, the numbers are, standing 81, sitting 71, and lying 66 ; the difference between standing and sitting being ten beats ; between sitting and lying 5 beats ; and between standing and lying 15 beats. The same differences expressed fractionally, are as follow, inclusive of exceptions ; 1-9th, 1-20th, 1-6th ; exclusive of exceptions, 1-8th, 1-13th, 1-5th.

2. The extremes are very remote from the mean results. Thus, the greatest difference between standing and sitting is 1-4th, the least 1-19th, of the frequency standing ; the greatest difference between sitting and lying is 1-4th ; the least 1-16th of the frequency sitting ; whilst between standing and lying, the difference may be somewhat less than one-half, and as little as 1-14th, of the frequency standing. The greatest difference observed amounts to somewhat less than one half of the frequency standing.

3. The exceptions are as follow—To the general law, that the pulse is less frequent sitting than standing, there is one exception in 12 experiments: to the general law, that the pulse is less frequent lying than sitting, there are 3 exceptions in ten experiments : to the general law, that the pulse is less frequent lying than standing, there is 1 exception to 14 experiments. The

total number of instances in which 1 or more exceptions to general rules occurs, is 34, or somewhat more than 1 in every 3.

4. The effect produced by change of posture increases as the frequency of the pulse increases.

5. The exceptions to the general rule are more numerous as the pulse is less frequent.

6. The effect produced upon the pulse by change of position is due to muscular contraction.

7. Muscular contraction, whether employed to change the position of the body, to maintain it in the same position, accelerates the pulse ; and the effects produced by change of posture form but a particular case of this more general law. *Med. Chi. Rev*

Signs of Undue Development of Brain, concomitant with the changes in the Form of the Head. The integuments of the skin of the head in these children have a smooth stretched appearance, and a deep flush follows every slight excitement. The veins are larger and more distinct than usual about the forehead and temples, and easily become full and turgid—as in crying ; the head is apt to become hotter than the general surface, and is often bathed in perspiration, especially at night ; the hair is frequently redundant and strong, but sometimes it is very deficient.

The fontanelle or open part of the head is large, its edges thin and stretched, and it varies its state of elevation or depression upon slight causes.

The mind of these children is generally premature, their affections lively, and temper quick and excitable ; these qualities render them more than ordinarily interesting. They are more than commonly wakeful, or sleep lightly and are easily disturbed.

Their muscular system is sometimes well developed, as shown by fine limbs, and an early ability to walk—but this is when the brain does not deviate very seriously from a sound state—more frequently and in severe cases, the power of walking is protracted, the balancing power of the will being deficient.

A general irritability and excitability of frame (often deemed characteristic of all children—but much more marked in some than in others, as all persons acquainted with children must have observed) is almost always associated with the condition of head above described. And looking at the offices the brain sustains in the system, there can be no doubt of its depending upon and flowing from it.

At the same time, it will be obvious to every physiologist, how an opposite set of symptoms may flow from a morbid brain, dulness, heaviness, stupor, and a preternatural immobility ; but such consequences are comparatively rare." 17.

The *consequences* of these abnormal states are head diseases—especially hydrocephalus, inflammation of brain or membranes, paralysis, croup, &c. The causes of kephalosis, he thinks, are hereditary predisposition, and overworking of the brain itself. The author makes no allusion to the means of counteracting or curing this kephalosis, but as the pamphlet is only the forerunner of a volume on the diseases of children, we shall look to that for more minute details. The brochure is extremely well written, but we cannot help suspecting that the "FACT," after all, is somewhat tinged by fancy.—*Med. Chi. Rev.*

Ulcers on the Nipples, &c. Dr. Boehm of Berlin has found great benefit from the employment of desiccative powder—composed of one part of oxyde

of zinc and one or two parts of powdered gum arabic—sprinkled upon these troublesome little sores. It forms a crust or thin cake over the ulcerated surface, which, being thus protected from all irritation, speedily heals.—*Med. Chi. Rev.*

Facility with which the Natives of India recover from Serious Accidents.—In the India Journal, for April 1, 1838, we find a communication from Mr. Splisburry surgeon of Jubbulpore, from which we extract the following passage.

"Some time ago I had occasion to bring to the notice of the Medical and Physical Society two remarkable cases of wounds, showing with what facility serious accidents are gotten over by the Natives. The first was that of a grass-cutter gored by a Spotted Deer with protrusion of intestines; the second that of a woman in the very last stage of pregnacy pitched on the horn of a bulluck, which perforated the cavity of the uterus; to these serious ones of the abdomen and pelvis I have to add another.

A young woman about 18 was brought to me with a very extensive wound of the occiput and posterior portion of the parietal bones inflicted with a tulwar, a piece of the skull and margin was completely detached, laying bare the brain to that extent; she had likewise a severe wound of the left hand cutting through the metacarpal bone of the fourth finger, also a very slight cut on the top of the same shoulder.

When brought to me she had lost a very considerable quantity of blood, her clothes being saturated, and was in a very exhausted state from the time of dressing her wounds, up to their healing, which they all did speedily, with exception of the apparently very trifling one on the shoulder; not the smallest symptoms of affection of the head took place, she never complained of headache, nor was there the slightest tendency to heat of skin, except in the injured hand for a day or two. P. nat. app. good, sleep unimpaired, adding another instance of the little constitutional irritation that takes place in natives after very dangerous wounds." *Med. Chi. Rev.*

Nitrate of Silver in Gastralgia. Dr. Steinitz has found this metallic salt successful in some severe and obstinate cases of this disease, which had resisted all the ordinary remedies, such as musk, castor, morphia, hydrocyanic acid, the preparations of zinc, bismuth, &c.

It may be stated, as a remark of very general truth, that metallic salts have a very marked effect upon all nervous affections, attended with high sensibility.

The excellent affects of the oxyde and sulphate of zinc in chorea, of steel in many cases of neuralgia, cupreous salts in spasmodic croup, &c. all tend to prove the correctness of this observation.*—*Med. Chi. Rev.*

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* Our German friends seem to be not aware that the internal use of the nitrate of silver in certain cases of gastric suffering was first recommended by Dr. Johnson the senior Editor of this Review.

It is an admirable remedy in allaying the morbid sensibility of the stomach in some forms of Dyspepsia.—*Ed. Rev.*

MEDICAL INTELLIGENCE.

FOREIGN CORRESPONDENCE.

Letters from Paul F. Eve, M. D. Professor of Surgery in the Medical College of Georgia.

PARIS, MAY 15th, 1839.

To the Editor of the Southern Medical and Surgical Journal:

Dear Sir—This morning I went to La Charité, visited the patients, and heard the Lecture of M. Velpeau. A man who received on Monday last a ball through the abdomen died here last night of peritonitis. Another who had a ball to pass through the middle of his left arm, without breaking the bone, was treated by bandaging from the fingers, and simple dressing to the two wounds, is doing remarkably well. I have seldom seen a wound of the kind in so good a state in so short a time. I learn there is a singular fact connected with wounds, in general, in Paris—it is this, that though erysipelatous inflammation has been a very common result lately, yet no case of the kind has been followed by tetanus. I understand that lock-jaw is not now known in the hospitals of the city.

In the case last referred to, the track of the ball was not examined, and not even was a probe used. M. Velpeau stated that it was of no avail, as the subsequent suppuration would reveal whether the bone was fractured, or whether the wound contained foreign substances; and moreover, that probing, &c. would aggravate the irritation and inflammation attendant upon gun shot wounds. Notwithstanding this high authority, I cannot but believe, that it is good surgery to examine and remove all foreign substances, be these the ball itself, (though in the case under consideration, this was out of the question, since the ball had passed through the arm,) pieces of clothing, or spiculæ of bone. Certainly, by a careful examination immediately after the receipt of a wound of this class, no great aggravation of it would be produced; and when foreign bodies exist in it, is it not essential that they be at once removed? In fact, would not their removal be the very best means to prevent irritation and inflammation? And as a class of wounds, gun-shot are peculiar in almost always containing foreign substances.

After the lecture, M. Velpeau operated twice for obstruction in the lachrymal sac. He overcame the resistance in the usual way, with a straight bistoury and probe, and then introduced a *softened ivory* bougie. He said the mode of preparing the ivory was a secret, until a German student revealed it in Paris.* They are now making urethral bougies, rectum, &c. &c.

* The *Ivory* bougies are made by first removing the earthy salts by an acid, and then subjecting it to tannin to acquire elasticity, firmness, &c.

of this material; the peculiar excellence of which, M. Velpeau stated to be, that it would increase one-third or one-fourth in thickness by absorbing the moisture of the canal in which it may be placed, which renders it peculiarly well adapted for the dilatation of the soft passages.

At eleven o'clock, I had the pleasure of hearing M. Magendie, who lectures every Wednesday and Saturday on Experimental Physiology. He was engaged with the fifth pair of nerves to day. After stating that this was a double nerve, one part being motor and the other of sensation, and exhibiting its minute ramifications; proving that the nasal branch of this was the olfactory or true nerve of the organ of smell, and not the first pair or the olfactory, commonly so called, he cut open the head of a rabbit, turned out a portion of the brain, and predicted that on touching with a probe a portion of the fifth nerve, the animal would cry. This was completely verified. He then cut the branch in two, and established a perfect loss of sensation in the parts to which it was distributed. He also stated that by touching the lachrymal branch of this nerve, the tears would flow as if one had opened the cock of a hydrant.

I regret to state that the climate of Paris has proven very fatal to American Medical Students. Six died during the winter of 1837–'38; and yesterday the third one died since the first of last January. This I think attributable to the long continued cold of the winters, and the severe exercise the students take in the morning before breakfast: some of them not unfrequently walking two or three miles to reach the Hospitals, or to pass from one to the other. The gentleman who died yesterday was a graduate of the Charleston College, and a native of South Carolina. They have all died of pneumonia, and have generally been attended by Louis.

17th. Went to *La Pitié* to see Lisfranc, but was again disappointed, and learned he was not in good health. Returned immediately to *La Charité*, and heard M. Velpeau's lecture, and saw him extirpate an eye. He first presented the ball which had caused the death of the individual already mentioned in this letter. It entered the buttock of the right side, and was found in the left thigh. It passed through the bones of the pelvis, the rectum and a loop of the small intestines—and what was surprising the ball was not the least flattened, but retained its natural shape.

The case of his clinic, upon which he dwelt the most, was that of a man who had received a blow of the fist upon his nose and left eye, attended with emphysematous swelling. After establishing the fact that it was air diffused in the subcutaneous cellular tissue, M. Velpeau entered into the enquiry, how it was generated there, since the skin was entire, and there was no appreciable fracture, and certainly no decomposition. His conclusion was, that some of the small bones of the nose must be fractured, producing also a rupture of the Schneiderian membrane. In support of this opinion, he mentioned a case of M. Blandin, who after operating for fistula lachrymalis, or rather *epiphora*, was much surprised to find the face of his patient quite emphysematous on the operated side. Upon examination, however, he discovered that when this patient held his nose in blowing it, or in sneezing,

the air entered the lachrymal duct, and became diffused into the subcutaneous cellular tissue, by means of the little wound made in the operation to which he had been subjected: And another case yet more in point was cited; that of a man who fell from an eminence, and rolled down a considerable distance. Dupuytren could find no wound in the skin, nor fracture, still his face, neck, &c. were very emphysematous. A post mortem examination revealed a comminuted fracture of the internal bones of the nose.

In extirpating the eye, which he said was affected with cancer or fungus hæmatodes, M. Velpeau stated, that as there had been recently a good deal said about the propriety of not removing the lachrymal gland with the eye, he intended trying the experiment, and therefore left in this case that gland in the orbit. The result of this I hope to communicate hereafter.

18th. M. Velpeau performed a very serious operation this morning. It is said he was never so reluctant to operate before—and that he had done every thing to avoid it, for he apprehended the patient would die on the table. She was a very intelligent young girl of 12 years of age, who had had for six years a tumour in the axilla of the left side. This had rapidly increased during the last six months, and now threatened the loss of life. M. Velpeau made a semi-lunar incision over the tumour, and then carefully dissected it from the bottom of the axilla. The operation was well performed, and the little patient behaved with much courage. But the dressing spoiled all—*the wound was crammed full of lint.* The French do not believe in union by the first intention.

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PARIS, MAY 28th, 1839.

To the Editor of the Southern Medical and Surgical Journal:

Dear Sir: Since the date of my last communication, I have procured the following medical intelligence which may be worthy your notice.

And first of *Pied-Bot* or Tendonotomy. I have seen several cases of this. One where five tendons were cut or divided by M. Velpeau. The operation had been performed five weeks, and the patient, a man of 35 or 40 years of age, could walk very well with the foot flat upon the ground. The second case was a female quite aged, having the great toe of the right foot pointed upwards, or, in other words, permanently extended. M. Velpeau divided by mistake the common tendon of the toes, which not relieving the patient entirely, he proposes to cut in a few days the proper tendon, or that of the extensor longus pollicis pedis. A third case, the same surgeon operated on, Saturday, the 25th. This also was a female aged 30, who had had for some time a permanent flexion of the right leg. The tendons of the ham on either side were divided, but without as yet straightening the limb. Indeed, it is even surmised, that the operation in this case will be worse than useless, for the knee joint seems to be involved in disease; but which of course could not be positively ascertained before the operation. There is now a girl entered yesterday to be operated upon next Saturday. Her case is the common regular club-foot.

In performing the operation, a very small knife, somewhat resembling a couching needle, is here employed. A simple puncture is made, and then the tendon or tendons are divided. I shall not neglect, before my return in the fall, to provide myself with these instruments, called Bouvier's.

The next most interesting operations I have witnessed, are the very simple ones for varicose veins. This is almost daily performed in La Charité, and with one exception, with entire success. The case that proved fatal was that of a man who had had several pins deposited under the internal saphena, and in whom, after these were removed, phlebitis supervened. It is said his blood would not coagulate. But this certainly cannot be offered against the operation itself. We need only reflect how many have died after common bleeding from phlebitis, especially in Paris. The operation consists in depositing a common pin under the vein that is varicosed, and then twisting around its two extremities a silk ligature. M. Velpeau says he prefers a circular twist to the common twisted suture, because the vein is thus compressed at three points. Sometimes but one pin is used, but most frequently there are several. For instance, in the two last cases operated upon —in one on last Saturday, two were placed under the vein (internal saphena) in the leg, and two in the thigh; and in the second, the one operated upon, last Monday, four were deposited in the region of the ham or popliteal. In performing the operation, the patient either stands up or reclines in bed. When the pins are placed, the ligatures are drawn very tight, and no dressing whatever, not even a bandage is used. Only the points of the pins are removed with the bone-nippers, and they themselves are generally withdrawn at the end of a week or ten days. It is an operation, as may well be imagined, that produces but little pain; and is indeed far superior in simplicity, safety, comfort, and celerity of cure, to any mode yet devised for varicosed veins—the patient, in fact, walks to his bed in the ward from the operating table.

On Saturday, the 25th, I went to Necker Hospital to see M. Civiale. In waiting for him we entered the wards, and met young Bevard, a very promising son of the former Professor of Anatomy in the School of Medicine of Paris. He exhibited a case where a large abscess in the parotid region had produced, from lesion of the seventh pair of nerves, ectropium of the lower eye-lid. Motion of the muscles of that side of the face had been lost, but not sensation. And he mentioned another case similarly afflicted, caused by a ball entering the ear and coming out very near the eye—being one of the gun-shot wounds of the recent *emeute* in this city. M. Civiale, after visiting his ward of eight or a dozen patients, entered his operating room and lectured a few moments on every case, and then operated successfully by crushing up a stone in the bladder—the patient voiding the fragments before us.

M. Civiale is a very fine looking man of about forty years old. He has outlived all the opposition of his rivals, Le Roy and D'Etoile, Amussat, &c. and silenced the murmurings of calumny. I am happy to inform you that he has already reaped a handsome reward for his ingenuity and perseverance, and now lives in the first style. He is altogether one of the most polite

French medical men I have met with, and uncommonly liberal and generous to strangers.

M. Civiale has now almost entirely all the cases of stone that occur in and about Paris, and is frequently engaged with those from a considerable distance. In lecturing he is a very plain speaker, and deals exclusively in facts. In his clinic he dwelt upon the propriety of so placing the patient as to have the fundus of the bladder the lowest point, and thus avoid the neck of this organ in the manipulation, &c. with instruments, because this was the most delicate and sensible part of it. In operating he used an instrument modified by himself, but which much resembles Jacobson's. In the introduction of the bougie, catheter, lithotrity instrument, &c. he is par excellence, the best I have ever seen. He never uses force, but the largest sizes seem as it were to be drawn into the bladder when he operates.

On Monday the 27th I saw Velpeau perform five operations: One for varicosed veins, two amputations of fingers; and two cases of hydrocele, of course with the tincture of Iodine, his favorite injection.

On Tuesday, the next day, he removed a carcinomatous breast—the operation lasted two and a half minutes.

On the 29th, I again went to *La Pitié*, and fortunately met Lisfranc, who I find has failed much since 1830. I regret to say his moral character is not good among his countrymen, though he has quite a reputation as a surgeon. He is the chief of the Hospital where he has labored so long. This morning he examined the wombs, per speculum, of more than a dozen cases. Since the *expose* of his *intern*, he does not operate so frequently as he once did on the neck of the uterus. He now mostly cauterizes the ulcers or carcinomatous affections of this organ. He employs exclusively, as a caustic, the nitrate of mercury; and applies it by means of a mop. In his clinic, made after the visit to the wards, he said he had in the last ten years cauterized from two to three thousand cases in this manner. It is an operation that seldom, if ever, produces any pain. He exhibited this morning a case in which he amputated the neck of the womb fourteen years ago—the cicatrix he said was firm, and the cure complete. She visited the Hospital now for some tumefaction of the uterus. Lisfranc's principal intern, and the only one it is said whom he makes his confidant, has nearly the half of his lower jaw amputated by his master. I saw several very interesting cases in his wards. One for instance, upon which he had operated for osteo sarcoma of the inferior maxillary repeatedly, until now, he has apparently, left only the two articulating pieces of this bone. But I hasten to call your attention to his peculiar dressing for recent wounds and amputations. He presented us a case and insisted upon the superiority of removing the dressings every day, beginning with the next after the operation. He first applies a linen compress well imbued with simple cerate, but made with *yellow wax*, because he says it contains more honey than the white, and then succeed the lint, and a handkerchief so folded as to cover the stump. This he presents to the profession as the *ultimatum* of after treatment in operations. Of all subjects in the world, the French are the most obstinate in yielding to *union by the first intention*. They will not believe the English or Americans—and

their practice is to prevent by all means the direct union of wounds, or of opposite surfaces after amputation, and to promote suppuration.

June 1. Lisfranc is exceedingly unpopular among his professional brethren, and no wonder—he never mentions a name with much respect, but generally alludes to other surgeons as the parrots, or such an one has as much to do with surgery as the *grenouilles* (frogs) have with feathers. His manners are very *brusque*; he is exceedingly petulant, and says whatever he pleases, even in his lectures. He has a very loud and harsh voice, and often elevates it to a very high pitch. Still Lisfranc is a great surgeon—probably the best now in Paris—certainly in his after treatment and medical department, he is the most successful.

Yesterday I visited M. Louis, and was most cordially received by him; and last night I spent with our distinguished countryman, Dr. Mott, late of New York. I find he has just returned from an extensive journey in the East and Egypt. The Doctor, as you know, left home on account of his health—an affection of the heart. He has all his family with him—wife and nine children. He informs me that his health is quite re-established; and were it not for the education of his children, he would return at once, to New York, and resume the practice of his profession, to which he says he is too much attached ever to relinquish. He expects now to return in a year or two. He is at present engaged in committing to paper his views on the practice of Surgery, and with some practice among the Americans and English. He says he will be in no haste to publish; and when he returns to America, he wishes to confine himself to surgery, in its practice and teaching.

This morning M. Velpeau operated for club-foot in the case already mentioned. He made an incision in the skin, or rather a puncture with a lancet along the side of the tendo-Achilles, then introduced Bouvier's knife, a long narrow cutting needle, and divided the tendon by directing the edge towards the bones of the legs or forwards. The divided edges separated under the skin more than an inch at once, and the foot was extended. M. Velpeau also removed the tonsils of a young man—one with a hook and bistoury, and the other with a new instrument of his own, called by him a kind of guillotine—this operated remarkably well.

Monday 3rd. Visited this morning the wards of M. Roux, at the Hotel Dieu. Saw him remove a very large ball, by a counter opening, in a man wounded on the 12th of last May. After making his visit he entered the lecture room formerly so crowded by the great Dupuytren, whose successor he is. But what a change did I behold in that room, which I had so frequently entered in 1830 and '31. Then it was frequently impossible to be seated, and often contained from 400 to 600 students, collected from all parts of the civilized world—now, will you believe, the first bench is not filled? M. Roux is undoubtedly a very respectable man, and an eminent surgeon, but more especially is he celebrated for dexterity as an operator. But as a lecturer or even as a surgeon, he is far, very far inferior to the late Dupuytren. He is from Gascony, and even his own countrymen cannot understand his speaking in public. He is very rapid in his enunciation, hesitates very much for words, and labours much with his hands, frequently pointing

or bending his monstrous nose with the right index. He is the only man I cannot comprehend, that I have met with since my arrival. After lecturing near an hour, he operated on three patients. The first was a case of polypus of the ordinary kind. This he succeeded very well in removing with forceps, and the breaking it up from its attachments, by pushing it back with his little finger. The other two operations were only tolerably performed. The one for fistula in ano required near twenty minutes, and as many cuts with the bistoury; and the other was an amputation of the leg. This too was performed *directly above the ankle*, for a ball which had passed through this joint. He was three and a half minutes cutting off the limb—made two incisions to complete the section of the skin, turned up the skin which was dissected with a small knife, and after sawing the bones, had recourse to the knife to divide some portion of a muscle which had not before been detached. Altogether it was an operation that would not be even creditable to a tyro. So true is it that some of the best surgeons not unfrequently perform very badly. Dupuytren once took half an hour to tie the brachial artery.

I ought not to forget that in the track made by the ball, and the counter opening for its extraction, a long strip of linen was deposited by M. Roux. The wound had been opened for more than three weeks, yet to prevent *its closing too soon* a seton is employed. This was French surgery in 1790, and is French surgery in 1839; and will, I fear, be the same for years yet to come.

I find the immovable bandages or apparatus exclusively employed in Paris for fractures. M. Velpeau has the starch in which the bandages are placed, or covered with, made so as to dry very quick, by subjecting it to an acid. Patients generally walk about in three or four days with crutches.

M. Velpeau, in preparing the second edition of his Medicine Operatoire, wrote to Dr. Mott requesting him to give some idea of the success of American surgeons. This Dr. Mott soon furnished, but M. Velpeau, I learn from his chief intern, M. Perischaud, does not give credit to it. He says this is contradicted by the Statistics of Dr. Norris, one of the Surgeons of the Pennsylvania Hospital. I recollect being impressed with the great error which Dr. Norris' statement was calculated to produce, by those who take it as the basis of success of amputations in the United States. It no more conveys a correct history of American Surgery on this, than it does of any other subject. No surgeon of our country will consent to its being a correct foundation of statistics in surgical practice. All it can pretend to, and all that Dr. Norris undoubtedly intended by it, was the practice of the Pennsylvania Hospital, and nothing more. I respect the surgeons of this charitable Institution, but I am sure they even will acknowledge that they erred, and that greatly, though on the side of mercy, in delaying amputations during the period referred to by Dr. Norris. Who in reading these statistics will admit them as correct, as applied to the United States? And these being the only ones yet published in our country, it is not astonishing that a man of M. Velpeau's industry and penetration, should have noticed the contradiction to it in Dr. Mott's letter to him.

June 4th. At seven o'clock A. M. I went to the wards of *La Charité*, and

after making the visit witnessed two operations. The Surgeons here cut very free in cases of fistula in ano—like old Boyer, they are not satisfied with a simple opening of it, but remove the whole tract of the fistula. This I saw yesterday done by Roux, and to day by Velpeau. The second operation was also performed by M. Velpeau, who remarked that he believed it was the first ever performed in Paris. The case was that of a female from the country, aged near 50, who had carried for some years a stone in the bladder. This, from all the symptoms and signs of a calculous affection, was supposed to be very large, and after considering all the various operations proposed for women, M. Velpeau decided upon the vesico-vaginal section. He stated that this operation had been performed about 20 or 30 times out of Paris, in France, during the past few years, but never, as he believed, in the city. It was without danger to the life of the patient, but was almost always followed by a vesico-vaginal fistula. Nevertheless, taking all things into consideration, he thought this a case requiring the operation, which was accordingly performed, and an immense calculus removed, thus completely verifying his diagnosis. It measures two and three fourth inches by two, and weighs three ounces.

The little girl who had the eye extirpated and the lachrymal gland left in the orbit is doing very well. From the suppuration which still flows, I can not tell if there be no secretion of tears. The other little girl from whom M. Velpeau removed the large tumour under the axilla, is also nearly well—the last week the edges of the wound have been approximated, and it has healed very kindly.

At 12 M. went to the School of Medicine, and heard M. Bérard, aîné, lecture on Physiology. He is considered one of the best speakers in the present Faculty. He was to day on Respiration. I observed that he insisted upon a fibrous tissue or muscular fibres covering the lungs by which these organs contract. He says the reason, why an opening into both sides of the chest produces death, is because the air entering into the pleura, permits the lungs to contract, and not that the atmosphere through the two wounds in the sides causes it—for the pressure of the air on the inside and outside upon the substance of the lungs, can do nothing but balance each other.

At two to four o'clock, attended the ocular clinic of Dr. Sichel, and saw him perform three operations for cataract.

There is an interesting concours now going on for the chair of Therapeutics, formerly occupied by M. Alibert. M. Trousseau, I learn, is the most promising candidate.

Some Italian quacks are now in Paris making a considerable stir about a *water* which cures all diseases, and more especially stops all hæmorrhages. It is said they have a certificate from Lisfranc, but they failed in procuring one from Dr. Mott, although they pressed him very hard. The truth is their water does promote the coagulation of the blood, some think chemically; but all its properties are not known. There is also an Englishman here who professes to dissolve the stone in the bladder. M. Velpeau has just offered him a case now in his wards.

MEDICAL CONVENTION.

We are truly happy to perceive, by the subjoined notices, that the attention of the medical profession is again called to the importance of a Convention of its members. And although the Faculty to which we are attached had the mortification, in 1835, to fail in an effort to bring about so desirable a meeting, (see the Southern Med. and Sur. Journal, September, 1836,) we still most heartily wish success to those who now urge the call. That a concentration of the talent and views of the profession, from the numerous institutions of our extended country, on the subject of medical education, would be fraught not only with benefit to those destined hereafter to enter the portals of our schools, but also with advantage to the country at large, cannot for a moment be doubted. The fact that the usages of our governments forbid their interference in matters of special education, renders it absolutely necessary that some body should be organized by the profession itself, for the purpose of regulating the mode of instruction, the requisitions for the Degrees conferred by its Schools, and for taking such other steps to elevate its dignity, as may be advisable from time to time.

It will be observed that, according to the notices given below, two Conventions are called—the one to meet at Washington City, in January, 1840, and the other at Philadelphia, in May of the same year. We hope that both will meet at the same time and place, and would suggest that preference be given to the month of May, inasmuch as the professorial duties of those attached to Schools would preclude their attendance in January.

[*From the National Intelligencer.*]

MEDICAL CONVENTION.

In obedience to a resolution of the Medical Convention of the United States, assembled in Washington City, in January, 1830, public notice is hereby given, that a similar Convention will meet at the National Hotel, in the said City, on the first Wednesday in January, 1840, for the purpose of revising the Pharmacopœia of the United States.

Each State Medical Society, incorporated Medical College, and incorporated College of Physicians and Surgeons, is requested to elect a number of delegates, not exceeding three, to attend the said Convention.

The several incorporated bodies mentioned, are also requested to submit the Pharmacopœia to a careful revision, and to transmit the result of their labours through their delegates, or through any other channel, to the next Convention.

They are further requested to transmit to the undersigned the names and residence of their respective delegates, so soon as they shall be appointed, so that a list of them may be published, for the information of the medical public, in the month of October next.

By order of the Medical Convention, assembled at Washington, in January, 1830. LEWIS CONDICT, M. D. President.

Morristown, New Jersey, April 6, 1839.

MEDICAL SOCIETY OF THE STATE OF NEW YORK.

At a meeting of the Medical Society of the State of New York, held February 7, 1839, the following resolution was adopted:

"Whereas a National Medical Convention would advance, in the apprehension of this society, the cause of the medical profession throughout our land, in thus affording an interchange of views and sentiments on the most interesting of all subjects, that involving men's health and the means of securing or recovering the same: Therefore *Resolved*, that in our opinion such Convention is deemed advisable and important; and we would hence recommend that it be held in the year 1840, on the first Tuesday in May of that year, in the city of Philadelphia—and that it consist of three delegates from each State Medical Society, and one from each regularly constituted medical school in the United States; and that the President and Secretary of this Society be, and they are hereby instructed and required to transmit as soon as may be, a Circular to that effect to each State Medical Society and Medical School in the United States." By order,

LAURENS HULL, M. D. President.

B. Van O'Linda, Secretary.

From the Medical Examiner.

LETTER FROM DR. HARLAN.—NO. III.

Séances of the Royal Academy—M. Daguerre's Photogenic Discovery—Mortality among the Prostitutes of Paris—Epidemic among the Cows—Diseases of the Silk-Worms—French Surgeons—Mortality after Operations—M. Roux—Dr. Blandin's mode of treating Stumps after Amputation—Professor Breschet's Operation for Varicose Veins—Treatment of fractures by the Immoveable Apparatus—M. Velpeau.

PARIS, April 30th, 1839.

To the Editors of the Medical Examiner.

GENTLEMEN,—Numerous pressing occupations, up to the present time, have effectually prevented the continuance of my correspondence. For the same reason, I have taken no notes of my daily observations, but hope, nevertheless, that some account of the general results may not prove altogether uninteresting to your readers. The weekly meetings of the national Institute—the daily exercises of the hospitals—the tri-weekly open days at the Jardin des Plantes, together with the urgent demands of Parisian society, leave me but little time for other occupations.

The Academy of Sciences, the only section of the Institute open to the public, holds its séances every Monday, at 3, P. M. The seats in the area outside those of the members, are always filled with visiters before half past 2, and those who arrive later are not admitted. This would have proved a great barrier to my attendance, had not the urbanity of my friend, Professor Blainville, of the Jardin des Plantes, secured me one of the eight chairs immediately before the President's chair, and devoted to foreign professors.—The meetings are always well attended by the members; and more memoirs are usually presented than the Academy can receive, or by the perpetual secretaries, M. Arago and M. Flourens, would be able to despatch. The crowds of savans, both foreign and native, who always claim admittance, shows the general interest that these séances excite.

Among the numerous interesting memoirs to the reading of which I have listened, none has so much riveted my attention as the account of the Photogenic discovery of M. *Daguerre*—the first annunciation of which was considered as fabulous. M. Daguerre's office, adjoining his splendid diorama near the Boulevard, was daily beset with the curious, demanding to know the truth of this new power of fixing an image,—the inventor was obliged, in self-defence, to close his doors,—this was just before my arrival in Paris, and previously to the reading of the memoir before the Academy of Sciences, where this highly important and interesting d scovery occasioned much dis-

cussion and debate. I, however, enjoyed the rare opportunity of inspecting the portfolio of M. Daguerre, through the kind attentions of Mr. Walsh, by whom I was introduced. Whilst examining the unique productions of M. D.'s portfolio, and listening to his explanations, I felt as in the presence of a superior power. Among the principal productions of this new process presented to our admiration, I must mention 1st, a view of the great gallery joining the Louvre to the Tuilleries; 2d a view, of l'Isle de la Cité, and the Towers of Notre Dame; 3d, views of the Seine, and several of its bridges; 4th, views of some of the Barriéres of the Capital; 5th, views on the Boulevards; 6th, interior of the Chambers, with statuary, furniture, &c. These designs were of different epochs, from four years to four weeks, and were done at different seasons, and at various hours of the day, some by the light of the sun, some during a shower of rain, and some within door with a moderate light;—nothing could equal the beauty, accuracy, and perfection of these designs, which were equally magnificent when viewed by a magnyfying glass, especially all *immoveable* objects. The process will not succeed with objects in constant motion; as an example, we observed a pair of carriage horses, in which one of the animals was headless, that part having been in continual motion. In answwer to my question, what time was required for the entire process, M. D. stated that he could prepare his sensitive paper in two hours, and complete the design in from five to ten minutes,—or, continued he, "I only prepare the paper, and hold it up to nature, and she executes the drawing."

The time necessary for the execution of a view, when a great power of tone is expected, varies with the intensity of light, conseqnently the process is affected by the seasons, and even by the time of day, and by climate; in Egypt, for expample, a view could be executed in one-third less time.

The process of M. Daguerre not only exacted the discovery of a substance more sensible to the action of light than any hitherto known to philosophers and chemists, it was also necessary to possess the means of depriving this substance of this new property at will, and M. D. has the merit of accomplishing this also. When his designs are once completed, they may be exposed to the direct rays of the sun, without undergoing any alteration. The extreme sensibility of M. D's. preparation is not the only character which distinguishes his discovery from those imperfect attempts formerly made to draw profiles on a layer of muriate of silver, which salt being white, is blackened by exposure to light, the white portions of the images becoming black, whilst the black portions on the contrary, remain white. Upon the prepared screens of M. D., the drawing and the object are both similar—the white corresponding towhite, the demi-tints to the demi-tints, the black to the black.

To demonstrate the extreme sensibility of M. D.'s preparation, he has succeeded in producing an evident white impression from the image of the moon, thrown through the focus of a moderate lens upon one of his prepared screens. A similar experiment was once made with the muriate of silver, without any effect, by MM. Laplace, Arago, and Malus.

The modus operandi in producing these designs, when the paper is once prepared, will be readily understood by all who are familiar with the camera obscura originally invented by Porta; every one has admired the neatness, truth of colour, form, and tone, with which exterior objects are reproduced upon the screen placed in the focus of the large lens which constitutes the essential part of this instrument, and have admired only to regret that these beatiful impressions could not be preserved. These regrets, together with the poetical expression—"fleeting as a shadow"—are henceforward without an object--M. D. having invented an artificial retina upon which the optical image leaves a perfect and lasting impression; or, in the language of M. Arago, "in the chambre noire of M Daguerre, light itself reproduces the forms and proportions of exterior objec ts with a precision almost ma-

thematical,—the photometrical relations of the various white, black, and gray parts, are exactly preserved,—but the red, yellow, green, &c., represent the demi-tints, for the new method creates designs, and not coloured pictures."

But, such designs! There is nothing in the arts that bears any analogous approach to them; the water is real water, the sky and clouds represent realities, the perspective and shading are the perfection of nature.—The invention of M. Daguerre is the result of the assiduous application and labour of many years, during which he had as collaborator, M. Niépee, of Chalons-sur-Saône, recently dead. Some reclamations as to priority have been published by Mr. Talbot, of London, but he has failed in establishing his priority, and results of his process are not similar to those of M. D.; in Mr. T.'s impression the white portions of the image are black, and the black are white.

I regret to add that this inimitable portfolio of M. Daguerre, together with the splendid painting constituting his diorama, was reduced to a mass of smoking ruins in three days after our visit; the premises took fire at 2. P. M., whilst M. Daguerre was on a visit to Professor Moss's, examining his Electro-Magnetic Telegraph, and as M. D.'s property was not insured, his prospects, at present, are ruinous.

My object in the present letter being to communicate results, rather than details, I must not enlarge further on other numerous and interesting memoirs presented to the Academy of Sciences; there is no subject, more or less related to science, that does not, some time or other, come under discussion at its séances. A curious fact was stated recently in a statistical memoir, viz; only one case of disease out of thirty occurs among the prostitutes of Paris—one of the happy results of the sanitary laws, which exact a weekly surveillance of medical inspectors; but even this three and a half per centage is enough, in such a town as Paris, to fill two large hospitals,—and the disease in question is indubitably a prevalent one among the "gentlemen" of Paris. These, probably, obtain this proof of "attachment" from a class of society "above suspicion."

An "epizootic" or epidemical disease prevailed among the cows last winter in the neighbourhood of Paris; it was characterized by a contagious, vesicular eruption on the udder; it formed the basis of several memoirs of the professors of the Veterinary School at Alfort. The disease was never fatal, nor did it communicate any deleterious qualities to the milk, and it is only referred to now to show how much attention is paid to this interesting department of science by the savans of Paris. It is also recorded that the cows at Passy have recently been affected with the "cow-pock." The opportunity of fresh revaccination was improved with happy effect, he vaccine thus obtain being much more active. The question was started also whether or not the cow was originally affected with this disease by inoculation from the human subject. I presume the experiment will sooner or later be made to inoculate the cow with the natural small-pox matter, and the modifying results noticed. We often listen to instructive memoirs on comparative anatomy, (especially fossil osteology,) geology, geography, rural economy, &c. &c., which, together with a very important memoir on the diseases of the silk worm, which destroys millions of worms in this country and which consists in the growth or developement of a species of cryptogamous vegetable of the genus Muscardine—the subcuticular adipose matter of the worm—we must refer to another opportunity.*

* Inasmuch as silk culture appears to have taken root at last in our country, and will soon, no doubt, add greatly to its agricultural resources, I may here remark, that excellent memoirs on the *Muscardine*, by Professor Audouin, have been communicated to the Academy of Sciences, and which were subsequently

Parisian hospitals and French surgery might be presumed, *à priori*, to be the first objects of attraction to a practical surgeon; but I connot but confess that a longer acquaintance with them, a more extended course of investigation, and a more familiar intercourse with their most eminent teachers of surgery, have in no small degree lessened the admiration with which I once viewed the éclat generally attributed both to the men and the in-

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published in the "Annales des Sciences Naturelles" for October and November, 1837, January, 1838, and in the "Comptess Rendus" for the 22d April, 1839.—M Bassi, of Lodi, was the first to announce, in 1835, the cause of this pestilence, so long the dread of the silk eultures of Italy and the South of France. When a colony of this useful insect is attacked, its ravages are instantaneous and general; none of those attacked have any chance of escape.

After numerous experiments, M. Audouin has arrived at the following conclusions, viz.:

"1st. That the Muscardine may be spontaneously developed, and in all places, when certain combined circumstances favour this development.

"2d. That it is not a disease confined to the silkworm, but that it is general, and may be exclusively peculiar to the class of insects,

"3d. That the disease, or Muscardine, may be propagated not only from silkworms to insects of very different species, but that, having spontaneously arisen among one of these species, it may, when transmitted to the silkworm, produce in them the same disease which shows itselt in silk establishments, (magnaneries,) and which is designated under the name of '*Muscardine*.'

"4th. That during this transport, which may be indefinitels varied by operating upon insects of orders, families, genera, and speeies, different or alike, the cryptogamous plant, and the disease which it produces, experience no change.

"5th. That if the dissemination of the sporules in the air, be the means which nature employs for the reproduction of the plant, its artificial devlopement may, nevertheless, be produced by inoculation of certain of its parts—its 'thallus,' for example—in the adipose tissue of the insect; that is to say, in the same soil in which the sporules have already vegetated.

"6th. In fine, by this artificial mode of infection, the cryptogame invades the adipose tissue much more rapidly, which occasions more promptly the death of the animal."

Subsequently, the following letter from a well-known agriculturalist, M. Poidebard, of the department of the Rhone, was communicated to the Academy of Sciences:—"There has resulted from the repeated experiments and observations which I have made in my magnanerie, (silk establishment,) a very important remark, viz.: a *magnanerie*, annually infested by the Muscardine, may, nevertheless, be made to yield a goood harvest, by anticipating the period of the invasion and development of the disease by accelerating the education of the worms, which will allow them time to finish their cocoons before the germ of contagion has made progress enough to occasion a general mortality.

"The following are the experiments on which my opinion is founded:

"1st. The silkworms of the white race, named *Sina*, whose term of existence does not exceed thirty days, reckoning from birth to the completion of the cocoon, have been constantly less injured than those of the *yellow* race, whose term of existence extends ten days longer.

"2. The most precocious of the worms of the white race, were in no way affected by the disease.

"3d. Those a little tardy were affected, in small numbers.

"4th. The more backward perished in much greater proportions.

5th. Finally, the yellow silkworms, much more tardy, were nearly all destroyed."

It has been incontestably proved, that *contagion* is one of the most constant characters of the Muscardine.

I am convinced, Messrs. Editors, that you will not consider the above extracts foreign to the purposes of a medical journal; you know too well the extent to which the investigation of the diseases of the inferior animals has tended to the elucidation of the philosophy of life and disease in our own species.

stitutions. It is true, we cannot two much admire the long-continued and laborious application by which they have attained perfection, as anatomists, and the consequent manual dexterity in operations, so universally admitted as a distinguishing characteristic of French surgeons,—and here their dexterity or superiority ends. Not only so: this dexterity itself has been obtained at the expense of principle, and at the expence of life; thousands are annually consigned to a premature grave by operations not always necessary to be performed at all, or improperly timed, or performed in cases that must terminate fatally, with or without operations. The mortality occurring at the Hôtel Dieu, perhaps one of the best, is absolutely frightful in amputations alone; the surgeons admit a loss of ninety-five per cent.; and one of the internes admitted, that during his residence for one year at the Hôtel Dieu, not one case of recovery occurred after amputation! I esteem M. Roux, the surgeon-in-chief of this extensive institution, as a personal acquaintance, and would not heedlessly detract from his hard-earned reputation; and in thus alluding to the results of my own personal observations, I have the interest of science only in view.

M. Roux possesses a grave, earnest, and decided character; but, like most others of his profession here, he is over-fond of displaying his manual dexterity. I have heard him beseech a patient to submit to an operation, as if it was the greatest favour conferred upon the operator; the operation once performed, the patient is prettry much consigned to his fate, for the after treatment of French surgeons I consider little better than no treatment at all. The constitutional demands, the habit, diathesis, or idiosyncrasies of the patient, are almost universally and entirely overlooked, and hence, together with the foul air of the hospitals, the dreadful mortality of these pesthouses. On the very first *coup d'œil* of the wards of these hopitals, nothing but disastrous consequences could be anticipated from one hundred to one hundred and fifty human sufferers, crowded together, side by side, and exhaling each the noxious effluvia peculiar to the gorgon form of diseases which afflict the inhabitants of rooms constructed on the worst possible principles for the purposes intended, and in which ventilation was not thought of, and where classification of disease has never been attempted. The unhappy effects of a foul atmosphere, in cases of wounds, are familiar to every professional reader, as a remarkable instance of which, we may refer to the Dutch army at Batavia when attacked by the British navy, when every case of solution of continuity, however slight, resulted in grangrene. As a lecturer, M. Roux is animated, though by no means eloquent. During a privated interview I held with him at his house the other day, he complained seriously, and lamented the state of French surgery of the present day in comparison with its former state; no one surgeon now he said, could obtain half so many *operations* as formerly,—there were so many hospitals, and then each institution was "si partagé," "si isolé,," there being eight or ten surgeons to each, and then almost every department of surgery being pursued in particular by some surgeon of eminence, that but few opportunities, comparatively, were left now-a-days for the surgeon of a general hospital to show his skill. Only seven cases of lithotomy occurred in his own wards last year. Thus the diseases of the eye, the ear, hernia, club-foot, affections of the bladder and urinary organs, venereal disease, &c. &c., have each a hospital devoted exclusively to themselves. M. R. is on the most familiar terms with his patients. In going his daily rounds from 7 to 9 A. M. he has always something funny, encouraging, or coaxing, to say to them all; for one he has a poke in the ribs with his finger, for another a box on the ear, &c. I have seen him make a convalescent reel with a blow on the side of his cheek, for asking him for something good to eat—all in the best possible humor. He sometimes becomes very affectionate, and kisses a patient on whom he has just inflicted a severe operation; and this salute, the students say, always prognosticates the death of the sufferer.

M. Roux mentioned to me Physick, Warren, and Mott, as the only American surgeons with whom he was acquainted; and judging from them, said he wondered at the large and rapid fortunes that were accumulated by American surgeons—a consummation which he feared would never attend the efforts of Parisian surgeons.

In person, M. Roux is rather beneath the ordinary stature, of a sanguino-phlegmatic temperament—features blunt and ill-favored—one eye projects from its socket, and has a cast in it. When earnest in discourse, his countenance is especially contorted.

Dr. Blandin is also attached to the Hôtel Dieu. He has lately been coaxing his *stumps* to heal, by the application of warm air after amputations, the stump being enclosed in a glass caisse, and air heated to the natural temperature of the body caused to pass constantly through it, is left without further dressing. Healing by adhesive inflammation, until within the last few years, was unknown in Parisian hospitals; from time to time some of the surgeons have attempted the adhesive process, but they are by no means fully aware of its importance. These stumps appeared to be granulating well, which may probably be accounted for by the simple circulation of air thus artificially produced. He has not yet published his results. It appeared to me rather an empirical practice.

Previously to leaving the Hôtel Dieu for the present, I must allude to Professor Breschet's method of operating for the radical cure of varicose veins. Your professional readers are already familiar with the construction of his instrument, consisting, briefly, in two parallel pieces of steel, brought together by screws, so as to press upon the included veins; the pressure is continued for several days, the patient keeping his bed; the integuments included above and below the veins slough; the veins are involved in the inflammation, and their sides adhere, obliterating their calibres. I have seen but one case involving the cord on both sides, in which the cure was apparently completed, the instrument being used on one side at a time.

On contrasting this operation with the method practised by M. Velpeau, of La Charité, I gave the preference to the latter; it is less tedious, less complicated, less dangerous, and, what is no inconceivable advantage, it is applicable to enlarged veins in any part of the body. M. V.'s method consists, simply, in passing a strong needle beneath the vein, and applying a ligature in circles, and not the figure of eight ligature. In a few days numerous veins are thus obliterated.

I have not been so forcibly impressed with any surgical improvement, since my arrival in Paris, as that of the treatment of fractures on the plan of Suetin and Velpeau, by means of "*Dextrine*" bandages. In my opinion, nothing but prejudice, superannuated or personal, can prevent the universal application of this method by all who are acquainted with it. Some of the Parisian surgeons have thus neglected it. At La Charité all other plans have long since been banished; and Velpeau and his assistants deserve much credit for the very great dexterity with which they so successfully treat all cases of fracture. There is, at present, a patient under treatment for fracture of the tibia and fibula, who was permitted to walk the ward in five or six days after its application. The same occurred since our arrival here, in a case of fracture of the os femoris, where the patient walked in 15 days after the application of this bandage. These precocious efforts in similar cases are not, however, advisable. Its application to the treatment of fractured thigh is more effectual than any of the other methods, besides being so much more agreeable to the patient, and so much more speedy in its results, and so little troublesome to the surgeon, one single application being generally sufficient, especially if, before applying the bandages, sufficient time is allowed to permit the subsidence of all tumefaction; for this purpose, the patient is permitted to rest in any easy position for three or four days, when, if the bandage does not become loosened by the subsequent

atrophy of the limb, a single application will suffice for the cure—but even in case of reiterated application, it is less troublesome than the usual method.

The following is Velpeau's method of application in fractures of the os femoris: the limb is in the first place enveloped in a common roller; a piece of bandage is then crossed over the ankle, for the purpose of extension, and over these is placed another roller, throughly impregnated with the prepared paste; compresses of coarse paper, similarly soaked, are applied over the fracture, and other prepared rollers applied over these,—coarse pasteboad compresses, softened by similar soaking, are also applied, and kept in position by other rollers. The extension is now made by tying the bandage from the ankle to the foot of the bedstead, (which are all of iron in these hospitals,) and counter-extension is made by a strap passed between the thighs, and made fast to the bebstead above the head. The bandages harden in few hours, and the limb is incrased in a solid coat of mail.

Experiments have been made with numerous adhesive materials, such as starch, glue, paste, gum, &c., as substitutes for the, "Dextrine" bandages now used exclusively at La Charité, all the others having been proved less effectual; gum arabic bears the nearest approach to it, but this is too expensive. The "Dextrine" is made by boiling starch in dilute nitric acid, and when separated from the liquor and dried, the powder costs about thirty cents a pound. One great advantage which this powder possesses over starch is, that it may be made into a paste with *cold* water, the former requiring boiling water. A very excellent and cheap substitute for linen or muslin bandages has been found in coarse paper, cut into suitable length and breadth, and soaked in this paste previously to their application; there can be nothing more effectual than a Scultet's bandage thus applied,—a method of economizing by no means beneath the notice of Parisian hospital surgeons, especially since a recent ordonance of government, which obliges them to substitute paper for linen compresses—the savings thus accruing to be devoted to the gilding of that magnificent temple, the Madeleine church! A more detailed account of this "Dextrine" may be found by referring to "Orfila's Chemistry."

M. Velpeau has been most unfortunate in the loss of patients in La Charité, in which hospital the mortality has been greater than in any other establishment. In addition to the usual causes which have gained for this hospital so mortifying a distinction, there has prevailed during the last winter and present spring an erysipelatous diathesis, which has desolated its wards,—so that a puncture of a nail, the simple operation of extirpating a small ganglion from the neck of a healthy subject, the operation for the radical cure of varicocele, and amputations of all kinds, fractures, &c. I have seen terminate fatally in numerous cases; and yet M. Velpeau continued his operations, and appeared astonished himself at their want of success, and is far from taking advantage of the best means of averting the evil; his constitutional treatment is worse than nothing. A patient was admitted with a wound in the heel by a nail; erysipelatous inflammation followed, and was continued to the ankle-joint, producing suppuration, irritation, and death. No measures were resorted to in order to rally the powers of a broken constitution; and in the autopsy and lecture on this subject, M. V. expressed his inability to explain his want of success in the treatment of the case, and viewed the death of a patient from the simple puncture of a nail as an opprobrium to surgery! But human life, it is said, is of very little account with French surgeons. M. V. operated five times successively for disarticulation of the knee, and in every case his patients died.

SOUTHERN MEDICAL

AND

SURGICAL JOURNAL.

VOL. III.] SEPTEMBER, 1839. [No. 12.

PART I.—ORIGINAL COMMUNICATIONS.

ARTICLE I.

A Treatise on Congestive Fever, by A. B. ARNOLD, M. D. *of Lowndesville, Abbeville District, South Carolina.*

In treating of Congestive Fever, I shall undertake to describe the disease as it prevailed in Abbeville District since the summer of 1832, and the mode of treatment which was found, from experience, to be best adapted to it. In order that my views may be better understood, I shall make a few physiological observations, as the basis of the Theory which I shall adopt in relation to the disease. I shall assume the ground, that every fibre of the body is endowed with a principle called irritability, and that the application of appropriate stimulants to this principle produces life and health to the degree that we enjoy it—and that these stimulants act upon what are called the surfaces of relation, that is, the external and internal surfaces, and that these are internal or secondary stimulants, namely, the different fluids of the body, and that a very important stimulus of this class is the electric fluid, which is transmittted from one point to another through the medium of the nerves, and it is by the instrumentality of this fluid, that all the sympathetic relations are carried on, and that it controls the circulation of the blood, and in this way is of most importance both in health and disease. But

at the same time, as its production depends upon a free circulation of blood, it may be increased or diminished according to circumstances, and in complete congestion of any of the vital organs, death is inevitable. Health then is the result of the application of the appropriate stimulants of life to the irritable fibres of the body, and in the diseased economy of the system many of its derangements denominated disease, are owing to an inordinate application of proper stimulants to particular parts, deranging that proper balance of excitement, which is necessary to keep up healthy action. But in most violent cases of actual disease, the system has been first subjected to the action of some deleterious or noxious agents which have created morbid action in parts most susceptible of impressions from such stimulants and through the instrumentality of the nerves these impressions are transmitted to other parts of the body, to the brain first, and to those parts next which sympathize most strongly with the parts originally affected, it being a law of the animal economy that parts of similar structure sympathize most readily, and that the nerves transmit impressions to different parts of the body precisely of the same character of those which exist in the parts primarily affected. Thus it is that the peculiar impressions made by the action of the matter of contagious diseases, are transmitted to different parts of the body, and in further proof of this fact, we have it from unquestionable authority that in cases of very high degree of excitement of the kidneys, other parts have been brought under sufficiently strong sympathetic action, to secrete a fluid precisely the same as that secreted by the kidneys. It follows then that the system is governed by the same laws both in health and in disease, and that the nerves are made to transmit healthy impressions in the one case, and diseased impressions in the other. It may here be necessary to observe, that there is a strong tendency in the system to keep up healthy and peculiar action in the different structures, thereby continuing a proper distribution of blood and excitement through the system. When any part of the body is subjected to inordinate or inappropriate stimulants of sufficient strength to produce increased or irregular action, other parts of similar structure will soon be involved in the same sort of increased and diseased action, whilst other parts will be left with deficiency of action. These principles in the

economy of the system being settled, they will serve as land marks in searching into the causes and effects of diseases and conduct to both a rational theory and a rational practice. Before I say any thing of Congestive Fever, particularly, it may be proper to make a few remarks on the group of symptoms denominated fever. Fever consists in an unequal distribution of blood attended, consequently, with increased heat and action in some parts, and diminished heat and action in other parts, creating irregular action in the heart and arteries, and showing already that the whole derangement commenced in local irritation, and it is obvious from the principles laid down above, that the local irritation will soon be followed by more or less congestion at the point of irritation, and that this determination of blood, if continued, will soon produce that continued distension of the blood vessels and painful state of the nerves called inflammation, which in its turn becomes a great aggravating cause. Thus it is easy to perceive that the action and re-action of cause and effect has a tendency to keep up disease, which would take life in every instance, were it not for that law of the animal economy, the tendency of which is to keep up and maintain that balance of excitement between the parts which is calculated to give health to the whole, there being a tendency in every structure of the body to take on and continue that action which is peculiar to its structure. It would appear then, as Fever consists in increased and wrong action in some parts of the system, that the plain indication of cure is to equalize and alter the excitement by remedial agents so far as to give the natural recuperative powers of the system the advantage over the disease. The mode and manner of effecting these objects may depend upon circumstances. If the disease is established, it is rational to commence by depletion and other means of abating excitement, but if in a forming stage, it may be done by remedies which have a revulsive effect, sufficiently strong to overcome the centripetal tendency which is given to the blood by internal irritation. These are the obvious conclusions from the history of life as laid down above. To these views of stimulants and irritability in the phenomena of life, our minds are limited by that law of our nature which speaks in the positive language, "Thus far shalt thou go and no farther." We must view man as he is presented to us in the full posses

sion of all his faculties, and confine our reasoning to the operations of causes and effects upon his material part, as far as we can understand the laws by which they are governed. It next becomes necessary to notice the peculiarities of Congestive Fever. I regard Congestive Fever as nothing more than a peculiar form of the Inflammatory and Typhoid Bilious Fevers of our country, which peculiar form or character is entirely attributable to the operation of the predisposing cause upon the system. I shall not pretend to say what this peculiarity in the predisposing cause is, but shall content myself with referring merely to the fact, that during the prevalence of any epidemic, the system is known to be under the influence of some peculiar cause which gives identity of character to every disease which may happen to invade the system at that time. It is clear, therefore, that the cause of difference between this and other fevers, must be the peculiarity of the predisposing cause of the epidemic; for I deem it unnecessary to say that the exciting cause cannot give character to any fever. It appears, then, that the only peculiarity which I contend for in this variety of fever, is the greater degree of congestion, admitting the seat of congestion to be the same as in other Inflammatory and Typhoid Bilious cases, that is, the internal capillaries and the important glands, and that different points of the system are liable as in other fevers, to become the principal seat of the disease owing to the peculiarity of the predisposing cause, particular structures, showing their greater susceptibility for particular stimulants.

Symptoms.—This fever, like other bilious fevers, assumes at one part of the season, the intermittent, and at another the remittent, though during the whole season the one or the other type will generally prevail. The only marked difference that I first discovered in the bilious fever of this neighborhood in reference to the form of fever now treated of, was an increase of the symptoms indicating congestion, and which rendered the fevers much more difficult to treat than formerly. Having witnessed variations in the character of bilious fever before in regard to the organs most liable to suffer throughout whole seasons and sometimes a change from an inflammatory to a typhoid type, I at once ascribed the change, as I had done on former occasions to a change in the character of the predisposing cause.

The fever was ushered in very much like other bilious fevers, but during the hot stage, I discovered that the re-action was much less perfect than in common bilious fever, the skin always remaining cold from the hips down, and hot and bathed in perspiration from the hips up throughout every paroxysm, attended, generally, with a dull heavy head-ache and with a rather more purple appearance of the skin in the upper part of the system, showing it more perceptibly under the eyes than any where else, great restlessness during every paroxysm, and anxiety with short breathing, and sometimes complaining that they could not breathe from the bottom of their lungs, redness of the eyes, watchfulness, and a great tendency to delirium in the inflammatory cases. The bowels were very costive, or had a great tendency to watery stools. Every thing except calomel, or a purge containing mostly calomel, or preceded by a large doze of calomel which had been suffered to lie sometime in the system, generally produced copious watery discharges, amounting in some cases, to what may be called serous hæmorrhage. It was always difficult to procure secretions from the liver, but they were always attended with relief when they were obtained. The pulse during the first paroxysm, with some exceptions, did not exceed in frequency 100 to 110 beats in the minute, but, if the disease was not arrested, it increased in frequency every day, always intermitting during the paroxysm, and after a few days, at all times. After two or three days, unless a manifest impression was made upon the disease, the pulse would increase to 120 or 130 during the paroxysm, and sometimes to 150, or so quick that the beats could not well be counted. The tongue exhibited pretty much the same appearances as in ordinary bilious fever varying in redness according to the degree of gastritis which attended the case. This inflammatory type of fever continued for three years, with very little change, when it gradually assumed a typhoid type.

Symptoms.—The colour of the skin was of a more leaden hue than in the inflammatory cases, the pulse much quicker from the beginning; this form of the disease was more apt to terminate suddenly than the other. By far the most fatal form of this fever, was the intermittent type, and was most apt to be mistreated, the chill in some cases was so slight, that it passed unobserved by the nurses, it only showing itself by an increase

of coldness in the extremities, which were cool before, and of the nose. If the type of the disease was not changed, it generally terminated fatally in a few days, sometimes on the second or third day, and when the brain was the principal seat of the congestion, the patient would lie in an apoplectic state during the paroxysm. It is the typhoid character of the disease, and especially when the type was disguised, that has struck the community with the most terror, on account of its most sudden, and in many instances, unexpected termination in death.

The tongue, when the disease had run on for some time, was coated with a darker fur than in the more inflammatory form of the disease, though in some instances, it was slick and shining, where there was more gastritis attending. It was generally tremulous, the skin was not so hot as in the other description of cases during the paroxysm, and after the heat subsided, a cold perspiration would continue for some time. In some particular cases, the pulse was not much increased in quickness from what was natural in health, the veins looked blue and distended, which, however was more orless a symptom in all the cases, and the circulation seemed languid. It was not attended with that pungent heat which belongs to Typhus fever, nor were the end and edges of the tongue generally so red, especially in the onset of the disease. In the cases where death took place early in the disease, the patient seemed to die entirely of congestion; and I have often heard the remark, that they died, apparently, without sufficient cause. In some cases there were no symptoms of delirium until the patient was thought to be dying, and indeed, during the forenoon, one inexperienced in the disease would suppose there could be no danger in the cases. But after a while the finger nails would assume a blue appearance, and the nose, feet and hands, become a little colder. At this time frequent sighing would commence, and after a while an attempt in the system to re-act attended with great restlessness and difficulty of breathing, and after a while a little wandering of the mind, the pulse would become smaller and more thread-like and in a few hours imperceptible, whilst in many cases the dying patient would converse rationally on the subject of his approaching death, occasionally using an idle word or two, the bowels were sometimes disposed to secrete water and generally made a gurgling noise. The liver was in some cases extreme-

ly torpid, it being impossible to act upon it before the patient would die, where the proper treatment was omitted in the onset of the disease. In the fatal cases the first symptom of death was indicated by the tongue becoming pale, and being very much inclined to lie where it was pushed about with the fingers —suffice it to say, that the only difference which I could discover between congestive fever and the common inflammatory bilious and bilious typhoid fevers of this part of the country was in the degree of the congestion. I consider congestive fever a variety of bilious fever because it disappeared at the appearance of frost, independent of the similarity in symptoms between it and common bilious fever, the winter diseases, however, showed the epidemic tendency to congestion, but in a much less degree than the summer fever.

Treatment.—It appears obvious that as the causes of inflammation are essentially stimulating to the parts which constitute the seat of the disease, that the most appropriate remedies must be depletion, abstinence, and counter irritation, together with other remedies which act revulsively. It may be asked if stimulants and tonics are not sometimes used to advantage in the treatment of inflammatory diseases? In reply to which I would say from the theory I have laid down I infer, and I may add that experience bears me out in the assertion, that when stimulants are introduced into the treatment of any disease, their operation being to force the powers of life, they have a direct tendency to increase the disease, and if in any case a salutary effect is obtained from them, it is by making a strong impression upon the whole nervous system, and thereby increasing the natural powers of the system in gaining a due balance of excitement and in this way local diseases of weak action may be overcome. But not so with any considerable inflammation of delicate structures. When the principal local affection is seated in parts distant from those organs which are called vital, or in organs which are not endowed with great sensibility, and most especially where the brain is not much concerned in the disease, something may be done with stimulants; as a case in point, the eruption in scarlatina and measles, may be maintained upon the surface, and the disease cured by the use of stimulants and so may stimulants at all times be successfully applied in local inflammation of particular tissues especially of the

skin. But who would think of using stimulants either locally or internally, in cases of acute inflammation of the eyes, or brain, or any of the delicate structures which are endowed with a high degree of sensibility, until it has been so far reduced as to depend upon debility in the vessels concerned. Now as Congestive Fever is attended in most cases when fully formed, with considerable inflammation of the mucous membrane of the stomach and the bowels, it is clear that stimulants are inadmissible unless it be such as promote the secretions from the parts diseased and thereby do more good in the way both of depletion and alteration than they do harm by their stimulating effect.—Such may be said to be the effect of all the medicines by which we deplete the system, but when properly selected to suit the case, the slight stimulating effect is so greatly overbalanced by the beneficial effects of depletion, alteration and counter irritation, that it may be regarded as a matter of no consequence. But at the same time great caution is necessary in selecting the remedies. Stimulants and tonics then are improper remedies for inflammation unless under particular circumstances, and they may be regarded equally so in congestion. For if it be true, as it doubtless is, that congestion is produced by an increased flow of blood to a particular set of vessels in greater quantity than the vessels are able to circulate and in this way become choked up, and that the cause of this is local irritation, or at least the cause of its continuance in all cases when produced, it is certainly a fair inference from the principles laid down in the commencement of this essay, that stimulants will aggravate the local irritation as well as increase the general excitement, and if they fail either to overcome the irritation or to enable the vessels to unload themselves, they must aggravate the disease, and I feel authorized in saying, from what I have seen and observed, that the powers of life cannot be sufficiently forced, or in other words the natural action of the system cannot be sufficiently forced to do either, where either exists to a considerable degree. As a case in proof, I appeal to every Physician of experience to say if he has not often known congestions of the liver confirmed by the imprudent use of quinine, and thereby a foundation laid for other chronic derangements of the digestive organs, and if this is doubted, let them look to the drunkard, and from him they will learn how certainly the free use of ardent spirits

will keep up when once produced, or even excite and continue a congestion of the liver, and all its frightful train of consequences. I shall regard it as settled that stimulants, properly so called, and tonics, are improper remedies in congestion as well as in inflammation. It follows then, that the remedies most proper in Congestive Fever, are of an opposite character, to wit: depletion, abstinence, counter-irritation, and sudorifics.

Venesection.—I regard blood-letting as a highly useful remedy in all cases of acute inflammation, and equally so in congestion, if resorted to early in the disease. Its best effects are to be obtained in the forming stage of either, and more especially of the latter. After congestion is fully established, its effects become much more equivocal, and in some cases highly injurious. The best time for drawing blood, is during the first paroxysm.—In many cases, the second, and in some the third will answer the purpose, but seldom afterwards. By the timely use of this remedy the congestion is prevented either altogether, or so far that it may be easily managed afterwards when followed immediately by other proper remedies. The propriety of bleeding during the cold stage is doubted by many. My experience is, that whilst the system is not yet oppressed, it may be resorted to with great propriety, but should be immediately followed by warm sudorifics. I have seen some of the best effects when used in this way, that I have ever witnessed from the remedy under any circumstances in almost completely breaking up the disease, but I must say that I have sometimes attempted it when I have been obliged to stop the blood immediately, and resort to warm drinks, and would therefore recommend when the system is much oppressed, and there is reason to believe that the congestion is pretty well established, to prefer the hot stage for the bleeding, and if the congestion is fully established, and has been so for a day or two, it would be well to omit the remedy altogether. The quantity to be taken, and the repetition of the bleeding, are circumstances that must be left to the judgment of the practitioner at the time. Bleeding freely is more necessary in some instances than in others. But there is one thing that I can with propriety say from my experience in treating the inflammatory form of the disease, and that is, I could always cure my patients, in less than half the time, that had been bled early in

the disease, than it required to effect a cure where the remedy had been altogether omitted. My experience also bears me out in testifying, to the importance of cupping and leeching in relieving local affections. I would earnestly recommend to all physicians when called to a case of Congestive Fever, to pay the next visit in time to be with the patient at the commencement of the next paroxysm, so that no time will be lost in preventing mischief by letting off a little blood in time. If the pulse yields easily to pressure and is very quick, it may be regarded as too late to bleed. The next set of remedies are such as promote secretions from the elementary canal.

Cathartics and Alteratives.—It will be perceived that I omit emetics altogether in the treatment of Congestive Fever. My reasons for doing so are that there is often too much gastritis to admit of the irritation from an emetic, and I further consider them illy suited to relieve congestion when formed, as their operation is both too hasty and too prostrating, though in the absence of much gastretis, and in the forming stage of congestion they might be used to some advantage, but the circumstances admitting their use so seldom occur, that I consider them unsafe remedies to recommend, especially in the inflammatory form of Congestive Fever. But to proceed to the consideration of the remedies under this head at once. My experience has induced me to reject Tartar Emetic, even in broken doses as an alterative, finding in most cases, too much gastro enteritis to admit of a favorable operation from it, and for the same reasons I object to the Pulvis Antimonials or James' Powder. There seems to be a suitable relation, or proper adjustment between the inflammation and the remedies to be used to relieve it, that ought to be considered in directing our choice of suitable remedies. For it will doubtless be conceded that there is a certain degree of action that is favorable to proper secretion, and that any excitement beyond that, has a tendency to alter or suspend it. Drastic cathartics are also objectionable as tending to excite too much, and produce serous discharges. It would seem from what has been said under this head, that the gastro enteritis was regarded as the main hydra of the disease, but it will be recollected, that congestion has been stated to exist to an extraordinary degree, and from what I have seen of the disease, I am sure that I can safely venture the opinion that whoever expects

to cure Congestive Fever of any form, by attending to the inflammation alone, will be disappointed and subjected to much vexation and trouble. Cathartics of a suitable character are absolutely indispensable, and Calomel is decidedly the best of all. After the bleeding, if it is necessary, a dose of Calomel and Jalap generally operates the most favourably. It should be proportioned so as to operate promptly and freely. I found that it had the best effect in arresting the inflammation and congestion by operating freely, and producing but little irritation. Whenever I could see the patient in time to bleed and purge freely with Calomel and Jalap, before the inflammation or congestion arrived to a certain stage, I always found with due attention afterwards the patient was sure to recover.

In some cases where the bowels were disposed to watery discharges, the Jalap was too drastic, but on the other hand heating cathartics, although not so liable to produce watery discharges, were too apt to aggravate or produce an obstinate state of inflammation, I allude particularly to aloes, I found it in the first stage of the disease objectionable in the form of Cook's pills. In all such cases, I found Calomel alone the best, and that it was better not to interfere with it by giving other medicines to work it off until it had time to alter that condition of the bowels. I have known even two tea spoonfulls of castor-oil to produce a dozen or fifteen watery discharges, if given before the Calomel had time to effect the proper change, whilst the Calomel when let alone, had the most favorable effect. The liver was always difficult to operate upon in proportion to the length of time that the treatment had been postponed. If the treatment had not been commenced before the stage proper for bleeding had passed over, and the congestion fully formed, it sometimes required enormous quantities of Calomel to start a secretion from the liver and bowels, but death was inevitable without it, as far as my experience goes. I have given in some cases upwards of a hundred grains a day for the first two or three days of the treatment, and I believe saved my patients by it, and I have no doubt but that 20 or 30 grains a day would have been sufficient if the treatment had been commenced in time. In all cases where very large doses of calomel have been given, it ought not to be worked off under something like fifteen or eighteen hours, and more calomel should be given as soon as the first dose is fair-

ly worked off. A great deal is gained by keeping up the impression for a sufficient length of time. Castor oil, or some mild cathartic, is best to work off large doses of calomel, and whenever it is necessary to give large doses, if the bowels are not too irritable, Ipecac should be combined with it. In fact, I have always discovered that whenever Ipecac was admissible, much less Calomel might be made to answer the necessary purpose. It will be observed, that I have supposed some obstinate cases of congestion. I would remark at the same time, that the size of the dose of Calomel, or the quantity given in the day, must be regulated by the degree of congestion, for I have noticed where there is less congestion, the same sized doses would prostrate, that are found necessary and safe in cases of great congestion, because there is much greater torpor of the system in one case than in the other. As soon as the secretion is started from the liver and bowels, and of proper consistence, as little calomel should be used as will have the effect of keeping up the secretions. I have known patients prostrated by eight grains, given every fourth hour, when the patient had been doing well under half the quantity for a day or two, and when the eight grains had not purged any more than the four grains had done, but the prostration was occasioned by over irritation, when the bowels were in an excitable condition, so that much depends upon the judgment and experience of the Physician in the management of such cases. It is only in cases of great congestion, and consequently great torpor, that very large doses are proper, but they are absolutely necessary in such cases. There is, however, one remark which I will make as the result of experience, and that is that half the quantity of calomel will answer the necessary purpose when not worked off under fifteen or eighteen hours, that will be found necessary if worked off in eight or ten hours. I think much good is derived from the alterative effect of the calomel, while remaining in the system, for that reason, I prefer giving calomel in broken doses when the secretions are once properly started. It will be necessary to look into the mouth and throat every day, to see if Ptyalism or mercurial ulcers can be discovered, and for fear of producing such effects I would advise the calomel to be laid aside and some other cathartic substituted, whenever the secretions of proper consistence and appearance can be kept up without the use of calomel.—

This can be ascertained by the trial occasionally of such cathartics as will not irritate much. My experience is, that after the system has been pretty well brought under mercurial action, even before Ptyalism has been produced, the calomel may be dispensed with, and there will be no impropriety in trying it after the symptoms of congestion have sufficiently given way.—The purging must be kept up as long as the symptoms of congestion continue, and as long as the secretions are much vitiated. After the disease is properly established, I have never seen a case cured without the discharge of a considerable quantity of black secretions. This kind of secretion seems necessary to relieve congestion, and is secreted by the bowels as well as by the liver. It may be ascertained from which it has mostly come by pouring water on it, if from the liver, it will give the water somewhat of a yellow tinge, which will show itself on the sides of the vessel and mixes with the water, while that from the bowels will not. I must appeal again to my experience when I say that Congestive Fever requires more purging than any other fever with which I have ever been acquainted, that is, if the disease is fully formed before the treatment has been commenced, and that the purging must be continued until every vestige of the congestion is removed, even if it should be necessary occasionally to give the patient sufficient rest for the energies of his system to recruit between the doses; otherwise if he gets up, he will be liable to chronic congestions of the liver and digestive organs. The greatest obstacle that lies in the way of treating inflammatory congestive fever, is the inflammation of the alimentary canal. It requires great caution to keep from increasing the gastro enteritis, or perhaps it would be more proper to say, it requires great caution in the selection and regulation of cathartics, to cure the gastro enteritis which attends the inflammatory form of Congestive Fever, whilst relieving the congested organs, and I contend that the surest and best mode of curing congestion is by purging; but in obstinate cases, whilst the cure is advancing, much aid may be derived from the next course to be mentioned, and that is,

Abstinence, Rest, Dieting and Opium—So far as abstinence and rest may be regarded as remedial in the cure of Congestive Fever, I would say that no reliance should be placed upon such means, except as merely auxiliary; but it is proper to rest a pa-

tient sometimes for a day or two in the course of the treatment, if he should be in danger of being exhausted. Abstinence is necessary to abate excitement but cannot be relied upon in violent cases. Inflammation, and congestion especially, must be arrested speedily by direct abstraction of the causes of irritation, or else the disease would often run on to an incurable state before any benefit could be derived from abstinence. As well might we talk of curing a violent attack of cholic by abstinence as to cure by it a violent case of fever, and above all others Congestive Fever. It is impossible that very high excitement, and more especially congestion can be relieved soon enough in this way to prevent fatal consequences in many instances. It is only suited to particular states of disease as an auxiliary means. So far as dieting may be noticed in addition to what has been said of abstinence, and as a necessary means of sustaining life, like purging, it may be said to be indispensable, but should be regulated to suit the case. In most cases of congestive fever, it should be light and mucilaginous, to soothe and allay irritation of the stomach and bowels, and thereby abate improper excitement of the parts diseased, whilst exhausted nature is sustained by it. An anodyne to allay diseased irritation, is highly beneficial as soon as the inflammation and congestion is sufficiently relieved to admit of it; thus it answers a valuable purpose in allaying the irritation of an active cathartic or any other irritating medicine. But more is necessary to be said of opium than merely to allude to its effects in allaying the irritation from a dose of medicine. Opium, in acute inflammation attended with high excitement, is inadmissible, on account of its stimulating properties. In congestion, it is objectionable both on account of its stimulating properties and its known effects in suspending secretion: nevertheless, it is not so objectionable in congestion as in high inflammation, because simple congestion bears stimulants better than inflammation, and its properties in suspending secretion may be counteracted in most cases by combining with it other medicines. I have found opium in congestive fever, as well as in other fevers attended with much irritation, as a valuable remedy so soon as the inflammation is sufficiently abated to admit of it; but I must say, that I regard it a very dangerous stimulus in the early stage of the inflammatory form of congestive fever, and indeed I found every thing dangerous which was

calculated to excite, and which did not act sufficiently, by way of promoting secretions, to counteracting its stimulating effect. I have seen many cases where inflammation was fixed upon the brain by a teaspoonful of paregoric. I have always been able to use opium much earlier in the disease when bleeding and free purging had been early resorted to. Such was the obstinacy of the inflammation and congestion in some cases where bleeding had been omitted and purging had not been resorted to sufficiently early, after purging my patients down to a state of prostration, I would be driven to the necessity of restraining them from the use of every thing but cold water and water gruel for days, until their system would rally its energies, and then purge again before they would bear the least stimulus.

The next remedies to be noticed are such as are calculated to excite irritation in other parts of the system, and thereby to divert the excitement from the parts diseased, and are denominated counter irritants. Of this class, blistering plasters are unquestionably of first importance. The proper time for blistering is after the excitement is considerably reduced. In inflammatory cases, if early applied, they produce too much general excitement; the point to which the excitement must be reduced must be left to the experience of the physician. Next to blistering, rubefacients are most to be relied upon; hot applications to the parts, left without sufficient excitement, are by no means to be overlooked; and finally, whatever is calculated to produce counter irritation, may be used to advantage in the way of local applications. Internal remedies act in part by producing counter irritation, but under this head, local applications to the external surface are particularly alluded to.

Sudorifics.—Much benefit is likewise to be derived from medicines calculated to excite perspiration, but like blistering, after the disease is fully established, the excitement must be reduced to a certain extent before they can be used to advantage. External warmth and warm drinks may be first used, because they excite least. When the inflammation and congestion is sufficiently subdued to admit of the use of opium, the Dover's powder is decidedly most to be relied upon, but it is better that it should be assisted by warm drinks and warm applications. So far the treatment detailed is in reference to the inflammatory form of congestive fever—the same principles will apply to the

typhoid form of the disease, making due allowance for the difference in the intensity of the inflammation, and the strength and tone of the nervous system. The typhoid type of the disease being attended with a lower grade of inflammation, and a weakened state of the nerves, will not admit of depletion to the same extent that the other form of the disease requires. The lancet should be sparingly used, and never at all unless it is in the forming state of the disease: but at the same time, when the disease is fully established, it requires a great deal of purging also. The purging, however, must be carried on in a slow manner, and the strength of the patient closely watched, and the patient rested whenever it seems necessary. The inflammation being of a lower grade, will admit of warm cordial drinks and a more nourishing diet, whereby the patient's strength may be greatly assisted. Opium may be used much earlier in this form of the disease than in the other, and is a highly useful remedy in combination with calomel, and sometimes ipecac.

External warmth and all the sudorific medicines, together with blistering, may be more early applied, and constitute an important part in the treatment of congestive typhoid fever, but it must be distinctly understood that the patient is to be purged according to his ability to bear it, and that the purging is not to be dispensed with, until the congestion is broken up. In this form of the disease, as I intimated before, alterative doses show their finest effects. But after all that I have said or can say, I would advise a strong effort to be made in every case to break up the disease in the forming stage, for when fully formed it is troublesome and highly dangerous. My own experience is that when undertaken in time, it can often be arrested in this stage.—If it comes on with a chill, and an intermission or decided remission can be procured on the first or second day, it may be arrested at once by the liberal use of sulphate of quinine, opium, blisters, and sudorifics. At the same time calomel should either be given in combination with the opium and quinine or it should follow as soon as it is discovered that the disease has been arrested in its course, in order to break up what congestion may be left, and to effect a radical cure. When the disease is fully established, the most difficult part of the treatment consists in happily adjusting the size of the alterative doses to suit the degree of irritation and inflammation of the alimentary canal so as to prevent exhausting

the general strength of the patient too fast by over-irritation or on the other hand by withholding the necessary quantity of the remedy and allowing the disease to hold the advantage over the powers of nature until it brings about that physiological death of the stomach termed collapse. It will here be observed that I recognize a specific effect in the calomel and other medicines, calculated to promote secretions from diseased parts, but it is not in that broad sense which is claimed by some for remedial agents. For instance, I do not contend that calomel given in doses of any size will produce that specific effect which is calculated to cure a particular state of inflammation, but that the specific action of the medicine best calculated to cure a particular state of inflammation is to be brought about by properly adjusting the size of the dose to the state of the inflammation, the cure being effected by promoting secretions and producing suitable counter-irritation. The fact that, the same quantity of any stimulant applied to parts possessing different degrees of excitability, will produce different results, is a truth well founded in the physiology of the system. When an increased quantity of blood to a certain amount is propelled to a secreting surface, the quantity of secretion from the part is increased, but a still higher action may be created and the secretion is stopped. This fact may be testified to by every one who has had a bad cold. Many other facts of a similar kind might be referred to. And if allowed the liberty of drawing illustrations from another science, abundant proof might be obtained from observing the operations of the mind.—How diversified are the effects of grief and joy when excited in different minds under precisely similar circumstances? Such, doubtless, are the effects of all stimulants applied to the system.

Part II.—REVIEWS AND EXTRACTS.

On Simple Ulceration of the Stomach; with Obser-vations on those Forms of Gastric Irritation which more commonly precede and accompany it. By Langston Parker, M. R. C. S.

The general pathological character of the disease I am about to describe is that of a simple round, or oval ulcer, with edges generally thickened and elevated, in which the mucous and muscular coats of the stomach are more or less completely destroyed, and the bottom of the ulcer is formed by the peritoneal coat of the stomach; or, where the ulcers have healed by a membrane, the result of the process of cicatrization.

The anatomical characters of the disease consist in a round, oval, or irregular shaped ulcer, more or less deep, occupying various positions upon the internal surface of the stomach, more frequently however situated in the cardiac portion, the greater curvature, or, in the vicinity of the pylorus. The edges of these ulcerations invariably present considerable thickening, so that in many instances, they appear, as it were, dug out into the substance of the thickened adjacent coats.

In ulcers of moderate size, the mucous and muscular coats of the stomach are commonly destroyed, and the bottom of the ulcer is formed by the peritoneal coat, sometimes very much thickened, a membranous cicatrix, or the base is rough, uneven, and fungous, and shows that the process of ulceration is still going on. M. Cruveilhier has I think, committed an error, in stating that these simple ulcers of the stomach are generally single. In a great number of instances they are not only double, but even multiple, and the use of a moderate glass, or even the naked eye, will shew in many instances where a large ulcer seemingly exists alone, that the mucous membrane is covered with many small spots of ulceration which a superficial examination might pass over.

One great peculiarity of this species of ulcer is its tendency to cicatrize under proper medical treatment. In some instances the cicatrices of these ulcers precisely resemble those of a badly healed burn, and they have likewise the same tendency, if the ulcer be large and deep, and its edges very much elevated, to pucker up, and draw together the surrounding parts, so that the stomach is contracted and deformed, its peristaltic motion impeded or destroyed, and the process of digestion in this manner rendered laborious and painful.

All the cases of simple ulcer I have had an opportunity of examining after death have presented concomitant marks of inflammation in other parts of the stomach; these have consisted in general increased vascularity of its mucous membrane—a punctiform or arborescent redness, general or partial—a congested and distended state of the veins of the submucous cellular coat, with general or partial thickening of the other tissues.

The terminations of ulceration of the stomach are four;—in three modes fatally, in one favourably. It may terminate in erosion and perforation of the stomach;—in one way by the continuance of the ulcerative process, and in another by the weight of the food pressing continually upon a thin cicatrix, or the centre of an ulcer occupying the greater curvature or cardiac portion of the stomach. Simple ulceration of the stomach may terminate secondly in a fatal hæmatemesis, the process of ulceration, by its continuance, opening a large venous or arterial trunk. It may in a third way become fatal, and wear out the patient by the constant and violent pain it occasions, destroying his digestive powers, impeding nutrition, and producing gradual emaciation, and death. Fourthly, the ulcer may cicatrize, and

the patient become perfectly well, though even in this mode of termination there are two evils to dread—the recurrence of the disease from slight exciting causes, and the rupture of the cicatrix from the pressure of food, or from violent exertion.

CASE, *illustrating the History, Symptoms, Pathology, and mode of Treatment of simple Ulceration of the Stomach.*

A remarkably stout man, a free liver, in the middle walks of life, began to suffer from uneasiness after taking his food at the age of eight and twenty years. He then suffered from weight, distention, and flatulence, with nausea after eating; he had also occasional vomiting. These attacks were relieved by medicines prescribed for him by the physician, under whose care he was at that time placed, but were prone to recur when the patient returned to his customary habits of living. When I first became acquainted with him, eight or ten years ago, he complained of fixed pain in the epigastric region, which was much increased by pressure and taking food; the pain was not at that time constant, it was most distressing after eating, and accompanied by much flatulence and distention. By restricting the patient to a milk and farinaceous diet, sponging the epigastric region frequently during the day with hot water, and exhibiting some mild carminative aperients daily for a short time, the symptoms subsided, and he again returned to his occupation in apparently good health.

After a time the pain again returned in a more violent and obstinate manner than before. It assumed the same character, was worse after eating, and accompanied by some tenderness and heat in the epigastrium. It did not now yield to the remedies which had before relieved him, but was much mitigated, and for some time entirely disappeared after the application of small relays of leeches, and continued counter-irritation over the epigastric and left hypochondriac regions.

My patient again returned to his accustomed occupations and mode of living, and after a lapse of eighteen months returned again with his pain as bad, if not worse than before. He was again relieved, I may say cured of his distressing uneasiness, by the administration of small doses of the muriate of morphia, and a repetition and continuance of counter-irritation; observing, at the same time, a strict dietetic regimen.

In this manner, during the last ten years of his life, was this patient relieved or cured six or seven times of the painful affection of his stomach, which as constantly returned, when he resumed his customary habits of living upon mixed and stimulating food and drink.*

After having lost sight of him for some time, during which period his ailments were so slight as not to lead him to seek medical assistance, I was suddenly called to him during a violent attack of hæmatemesis, in which he vomited from two to three pounds of blood. I may here observe that, during the previous progress of disease, my patient had never vomited blood, or those black discharges which are peculiar to ulceration of the stomach. He had rarely nausea, and if he had an attack of vomiting, which did not take place more than two or three times during the whole progress of his disease, he vomited his food only. He was, however, occasionally subject to discharges of blood by stool, and at other times when this was not the case, his stools were black as pitch; these black discharges we shall afterwards speak of, but when they occur with such gastric symptoms as the present, and independent of any hæmorrhoidal or other disease of the rec-

*This part of the history of the case confirms a remark which I have made in another part of this paper, and which I find confirmed by the experience of M. Cruveilhier, viz: that ulceration of the stomach, after having, by care and judicious treatment, been brought to a state of cicatrization, is exceedingly prone to recur from slight dietetic errors, or even from strong mental impressions. The physician has seen a case similar to the one I have recorded, in which the disease returned three times, at intervals of from two to four years.

tum or anus, they are symptoms indicating very strongly the existence of ulceration of the stomach.

To the vomiting of blood succeeded great langour and depression, palpitations, hurried breathing, with attacks of severe pain in the stomach and bowels, which came on daily, sometimes twice or thrice in the twenty-four hours. The pain seized him suddenly, and left him with a discharge of wind. He had great tenderness and pain in the epigastrium and right hypochondrium; the skin had a pale, sallow, blanched appearance, whilst the tongue did not deviate in any appreciable manner from a perfectly natural condition; it had the same pale appearance as the skin; no coating, no redness, no developement of the papillæ.

From this time to the period of his death, varied plans of treatment were adopted, with a view of relieving the epigastric pain. The trisnitrate of bismuth with the ponderous carbonate of magnesia and the muriate of morphia certainly afforded very marked relief; amongst many remedies that were employed this was the most efficacious. Benefit was likewise derived from the carbonate of iron with rhubarb, and a sedative. Small blisters were also used, with a strong solution of the extract of belladonna applied warm on a piece of flannel and laid over the epigastrium. Suddenly and without any appreciable cause his breathing became embarrassed, cough came on, and terminated in the expectoration of muco purulent matter to the extent of three half-pints daily.

Under the continued irritation of pain; and bronchial disease, my patient sank, three weeks after the attack of hæmatemesis, at the age of 52. I believe the immediate cause of his death to have been bronchitis. I am firmly convinced that from his stomach disease he would have recovered.

Inspection of the Body, 28 hours after Death.—The coats of the stomach were generally thickened, more particularly the peritoneal, and this more marked in the pyloric half of the viscus. Great vascularity, and thickening of the mucous coat generally; the veins of the submucous cellular tissue gorged with black blood. The greater curvature contained a large, deep ulcer, perfectly healed, with thickened and elevated edges; the process of cicatrization had puckered up, and contracted this portion of the stomach to some extent, just as the skin is occasionally contracted by the healing of a burn. The cicatrix of another large ulcer existed in the immediate vicinity of this; here the healing process had been completed without puckering or contraction of the surrounding mucous membrane. Several smaller ulcers were formed in different parts of the stomach, the one immediately below and between the two large ulcers was rapidly healing; in the two lower ones, which I imagine gave rise to the gastric symptoms during the latter weeks of disease, the process of ulceration is still going on. The lowest, I have no doubt, gave issue to the blood vomited three months before death.

The spleen was hypertrophied to some extent. The liver in the same state. The pancreas much enlarged. The pericardium intimately adherent to the heart; the muscular structure of the heart very pale and soft.* Several adhesions of the pleuræ on both sides; the bronchial mucous membrane vividly injected; general congestion of the substance of the lungs.

Remarks.—This case is worthy of notice, in many points of view, and exhibits in its history and morbid appearances most of the peculiarities of that disease which has been termed by Cruveilhier simple ulceration of the stomach; a disease which has never been fully described in this country and but partially by the pathologists of France.

*These two pathological phenomena, viz: adhesions of the pericardium, and pallor with softness of the muscular substance of the heart, are commonly observed, after death, from prolonged gastric, or gastro-hepatic diseases. See the cases; &c., detailed in my work: "The Stomach in its Morbid states."

We will dwell for a moment on the history of this case. In the first place we observe the symptoms of indigestion, as they are commonly termed, to have commenced about the age of eight-and-twenty, and to have harrassed the patient more or less during the whole of his subsequent life. It will be remarked that the attacks of stomach disease were at first relieved by medical treatment and strict attention to diet. As disease proceeded they became more difficult of cure, and what was at first a mere active hyperemia of the stomach, terminated in confirmed chronic gastritis, and subsequently in ulcerative inflammation of the mucous membrane. I conceive the facts of this case will admit of no other satisfactory explanation.

From examination of the accompanying preparation, it will appear, that the ulcers of the stomach had been formed at different periods, and certainly gave rise to those violent attacks of pain, which the patient from time to time experienced at intervals, sometimes of two or three years. I believe the process of cicatrization was favoured by the local depletions, and counter irritation to which my patient was subjected, when his pain became so violent, as to lead him to give up his occupation and seek for medical relief. Under a perseverance in a strict regimen, small local bleedings, counter-irritation, and minute doses of morphia, &c., he became perfectly well, and it was not till after a course of living upon a full and stimulating diet, that the attacks of inflammation and pain again came on.

On examining the morbid appearances in this specimen, we find that it exhibits almost all the varieties of which the simple ulcer is capable. In the first instance we notice the cicatrization of the large ulcer to be accompanied by that degree of contraction of the mucous membrane in its vicinity which is commonly observed in the skin after the healing of burns. The very healing of these ulcers may become a source of lasting inconvenience and danger, for if they be situated near the openings of the stomach, in the vicinity of the cardia or pylorus, the contraction of the cicatrix directly shrinks the orifice, and the passage of food to or from the stomach is rendered more or less difficult. The pathological anatomy of Mr. Cruveilhier contains the account of a patient in whom the cicatrization of simple ulcers had contracted the pyloric orifice of the stomach so much that it would barely admit a goose-quill. He had originally presented the symptoms of ulceration, which had been, by an appropriate treatment cured, but returning to the pleasures of the table, and being a great eater, had suffered the most agonising pain after meals, till he, at length, sank from a succession of hæmorrhages, which M. Cruveilhier thinks arose from exhalation from the surface of the congested mucous membrane of the stomach, since no vessels of any magnitude could be detected from whence the blood could have issued.

It is thus that ulcers of the stomach, in their healing, sometimes lay the foundation of diseases as formidable as those which characterise their open condition.

The second ulcer has cicatrized without this contraction of mucous membrane, at least with a very trifling degree of it.

Perforation of the stomach has been prevented, in this instance, by the extreme thickness of the peritoneal coat of the stomach. This I imagine to have been the result of that inflammation which was going on in the coats of the stomach, previous to ulceration of the mucous membrane, and to which is owing that general thickening of the parietes of the viscus, which is very remarkable.

The thickening of the peritoneal coat appears a provision of nature for preventing that perforation of the stomach, and discharge of its contents, which must otherwise have taken place; and hence it is that perforation of the stomach, the consequence of ulceration, in males is less frequent than in females; the ulceration in the former, generally succeeding to a general chronic gastritis, accompanied by thickening; whilst in the latter, the af-

fection is due to a localized inflammatory action, occupying a very small portion of the mucous membrane, where the thickening is generally confined to the edges of the mucous membrane surrounding the ulcer.

General Description of the Symptoms of Simple Ulceration of the Stomach.—The first of these is a fixed acute pain, occupying the epigastric or left hypochondriac regions, the centre of the sternum, or some point on the dorsal portion of the spine, between the scapulæ. This pain is the symptom "par excellence," it is that, and generally that only which attracts the patient's attention; from it he may be for some hours occasionally free; but never is so entirely during the day. For many hours out of the twenty-four this corroding uneasiness harrasses the sufferer, sometimes in the morning, at others in the evening, sometimes in the intervals of meals, but generally it succeeds to them, and commences with more violence after the dinner meal, continuing without abatement till late in the evening, when it commonly subsides, and leaves the patient comparatively easy for the night, till breakfast brings back a return of his sufferings. The seat of this pain is, as I have just stated, variable. I attended a gentleman for some years with simple ulceration of the stomach, who always suffered most severely in the centre of the dorsal portion of the spine, and along the course of the intercostal spaces; in this patient the epigastric pain was not absent, but in some measure masked by the greater suffering he experienced in the back and sides. These parts were very sensible to pressure, and he invariably experienced relief of the gastric uneasiness, from the application of small relays of leeches over the tender spot on the spine; this, during the latter months of disease was the only remedy that afforded any marked relief. This patient died ultimately from violent hæmatemesis.

In many other instances the pain is confined to the centre of the epigastrium, which is the chief, and indeed the only seat of suffering.

Although the act of taking food occasions the patient so much uneasiness, the appetite in many cases of ulceration of the stomach continues good, and in some instances is morbidly increased. The remark of patients labouring under this disease is commonly "I could eat any thing but dare not." In certain instances the appetite is defective. This I think arises most commonly from extensive concomitant inflammatory action, and where the ulceration is complicated with other lesions of the mucous membrane.

The tongue is in a great majority of instances clean; in some not the slightest deviation from the healthy condition can be detected; it is neither redder, nor less moist than usual, and even when ulceration of the stomach has been accompanied by profuse bloody vomiting, we observe the tongue to present that blanched condition which is common to other organs in this state, and not to offer that contrast to the external skin which is so remarkable in the advanced stages of pure chronic gastritis, where the vivid redness of the protruded tongue presents a striking contrast to the sallow, pallid countenance.

I have, in my work on the stomach, adduced a variety of facts, noticed by myself, and supported by the corroborative testimony of Louis and Andral, of the uncertainty of the state of the tongue as indicating any particular pathologic condition of the stomach. The tongue certainly bears no direct relation to the kind, or degree of disease existing in the stomach. Doctor Stokes has remarked that too much attention is, and has been paid to it, with this view, by British practitioners; whilst Louis says "we should examine the tongue for itself merely, not to ascertain by it what is the matter with the stomach." I have rarely met with a case of simple ulceration of the stomach, where constipation of the bowels has not been a prominent and most distressing symptom; and one which is a source of great anxiety both to the patient and his attendants. The attacks of pain are more violent and frequent whilst constipation is present, and again there is great

difficulty in framing an aperient that will relieve constipation, without producing great pain during its operation.

Nausea is not a common attendant upon this disease, but sudden and sometimes fatal vomiting of blood, or a black fluid, comes on at an earlier or later period. M. Cruveilhier considers the black vomiting peculiar to, (and almost pathogonomonic of,) ulcerations of the stomach, to result itself from blood, slowly secreted from an ulcerated surface, and rendered black by its sojourn for a longer or shorter space of time in the cavity of the stomach, and its mixture with the acids of the gastric juice.

Bloody vomiting, in ulceration of the stomach, is by far the most dangerous symptoms we have to contend with. I have certainly seen a patient recover from ulceration of the stomach after several attacks of severe hæmatemesis; these cases are, however, comparatively rare. Discharges of blood rarely occur early in the disease, and when they come on to any extent, a patient is worn out and emaciated by constant pain; they are very commonly fatal. I have more than once seen persons, with ulceration of the stomach, die in the very act of throwing up blood.

Before any vomiting of blood or black fluid takes place in ulceration of the stomach, it will very often be found that these matters are passed by stool. The blood is slowly exhaled, mixes with, and colours the food and fæcal matter, and passes off in stools as black as pitch. This symptom, considered with others, will leave no doubt on the mind that blood is slowly oozing from an ulcerated surface; and it will lead to the adoption of measures to prevent the sudden vomiting of blood, which commonly succeeds to the black discharges by stool, of which these latter are, in many instances, premonitory symptoms.

The manual examination of the epigastric region contributes little to confirm our diagnosis in this disease. It is sometimes highly sensible to pressure, at others perfectly indolent. In the advanced stages of disease in the male, where the coats of the stomach are commonly thickened, a tumor may be detected, but, apart from the existence of other symptoms, we cannot say whether this tumor result from mere thickening, the result of chronic gastritis, or whether this thickening be accompanied by ulceration or cancer.

The general appearance of patients suffering from ulceration of the stomach, is haggard and anxious in the extreme. Defective nutrition has produced a paleness in their tissues which is very remarkable; the conjunctiva has sometimes the appearance of the whitest marble, and the whole aspect of the patient, in the advanced stages of disease, even when hæmatemesis has not taken place, is that of a person blanched by repeated hæmorrhages.

We must here enquire into the nature of those symptoms of gastric irritation which precede the actual staté of ulceration, in other words, we must look for the causes of this disease; these, I believe, will be found in certain states of gastric irritation, which are very much under the control of medical treatment.

M. Cruveilhier says, "The history of the causes of simple ulcer of the stomach is involved in deep obscurity; or, rather, this disease recognizes all the causes of gastritis for which it has been mistaken. But why is only one single spot of the stomach affected, whilst all the other parts of the stomach are in a healthy state!" It is singular so accurate a pathologist as M. Cruveilhier should have made a statement disproved even by many of his own cases, by the remarkable one detailed in this paper, and by the pathology of the stomach generally. The simple ulcer is met with as frequently double, triple, or multiple, as it is single; and I have never seen a case where this organ has not presented the most unequivocal signs of long continued inflammatory action, most frequently marked by general or partial thickening of its coats. Not only are the consequences of inflammation to be found in the stomach after death from ulceration, but the whole class of symptoms,

which precede and accompany ulceration during life, are clearly dependent upon inflammation, as the results of inflammation sufficiently prove.

Ulceration of the stomach succeeds more particularly to two conditions of gastric irritation, which it is important here to notice; these are inflammatory indigestion, or certain forms of gastritis in males, and those affections of the stomach which occur in females whose menstruation is irregular, who are the subjects of hysteria, or who are confirmedly chlorotic. These forms of irritation are clearly of the inflammatory kind, though essentially modified by the state of the economy in which they occur.

I shall endeavour to give a brief account of such of these forms of gastric irritation which I have seen terminate in fatal ulceration of the stomach. The case detailed in the earlier part of this paper, will illustrate in its history, the origin and progress of that form of indigestion which is evidently of an inflammatory character. The fresh attacks of this disease are generally marked by fullness after meals, distention of the stomach, eructations, heartburn, nausea, pains in the back and sides, uneasiness in the epigastrium, terminating in fixed and constant pain, aggravated by taking food; strong beating of the heart, throbbing of the carotids, head-ache or stupor succeeding a meal.

It is true that in a vast number of instances the inflammatory forms of gastric irritation never terminate in ulceration of the mucous membrane of the stomach, though I believe, from some experience in this class of diseases, that ulceration is a more frequent termination of them than is generally supposed. This opinion is likewise corroborated by the experience of M. Cruveilhier, who, in his second paper on this subject, states this disease to be much more frequent than he had at first supposed.

I have seen the inflammatory form of indigestion, which is a true partial gastritis, terminate in ulceration in five months, from its first commencement, in a patient who had never, previous to this period, suffered in the most remote degree from any affection of his stomach.

M. Cruveilhier believes in the existence of acute ulceration of the stomach, and adduces the case of a patient who died from the disease, twelve months after a slight attack of cholera, prior to which he had been in perfect health. He mentions a second case terminating fatally in ten days from perforation, the subject of it never having been ill before this period, the anatomical characters of the disease shewing it to be a recent ulcer. A third case is mentioned succeeding to indigestion of some months standing, fatal by perforation.

The most insidious and alarming forms of irritation in the stomach, if we regard their occasional termination, are those painful affections, and disordered conditions of the digestive powers which occur in young females, particularly where there is any disorder in the functions of the uterus. It will be found on examination that most patients who are chlorotic suffer more or less from some form of irritation in the stomach or bowels.

Some complain of pain after food, nausea, daily vomiting, diarrhœa, loss of appetite, with heat and tenderness in the epigastrium. Accompanying these symptoms there is commonly a dry, red tongue, and the patient suffers from a most distressing weakness.

Not unfrequently, in the midst of these symptoms, or after some partial degree of amendment, the patient is seized with acute pain in the bowels, and suddenly sinks and dies. On examination the stomach is found perforated in the centre from ulcer, with thickened and elevated edges, the immediate vicinity of which exhibits marks of inflammation and thickening of the coats of the stomach, whilst the remainder are generally very thin, and the mucous membrane in all other points presents a remarkable pallor or whiteness, and is almost exsanguined;—a totally different condition from that observed in the mucous membrane of patients dying from that ulceration of the stomach which is the result of general inflammatory indigestion

or pure chronic gastritis. In the former instance the disease is generally confined to a very small portion of the mucous membrane; it is a localized inflammatory action occurring in a constitution in an extreme degree of weakness or irritability, and seated in tissues so badly nourished that they present but little resistance to the fatal termination of the disease in perforation of the coats of the stomach.

I conceive the difference of the circumstances, under which the disease we are now considering occurs (in the male as the result of inflammatory indigestion, on the one hand, and in the chlorotic, or hysteric, or debilitated female already exhausted by uterine irritation on the other,) to be one most powerful cause why the disease so much more frequently terminates in perforation in the latter than in the former.

I know of no instance where cicatrization of an ulcer of the stomach has been shewn to have taken place in the female. In the male, the case of Professor Beclard will suggest itself to the minds of all, whilst the case now detailed is another and perhaps the most remarkable hitherto recorded. Cruveilhier states that the simple chronic ulcer has a tendency to cicatrize, and Dr. Abercrombie says that he is satisfied that he has seen the cicatrices of such ulcers when the patient has died of another disease, after having been for a considerable time free from uneasiness in the bowels. The latter authority however records nothing definite upon the subject.

I believe ulceration of the stomach to be more frequent in the male than in the female, whilst the fatal terminations of this disease by perforation are much more frequent on the part of the female than the male. Mr. Pritchard of Leamington, in a pamphlet on the organic character of hysteria, has collected from various authorities eighteen cases of perforating ulcer in the female, whilst he has only been able to meet with eight recorded ones of the same disease in the male.

It is true that the disease is more frequently verified after death in the female than in the male, but I think it will be found that the disease is more prone to catrization in the male from the circumstances I have mentioned, and again in the male its fatal terminations are more frequently by hæmatemesis, and gradual exhaustion, than by perforation, from the simple circumstance that the coats of the stomach generally, or those merely in the immediate vicinity of the ulcer, are most commonly the seat of considerable thickening, the consequence of long continued chronic inflammation. We do not observe the same causes in the female.

Of the Treatment of Ulceration of the Stomach.—The treatment of ulceration of the stomach must be modified to suit the particular kind of affection we are called upon to manage, and hence it must be considerably different in the male, where the disease is the result of gastritis or inflammatory indigestion in any of its numerous forms, and in the female where it occurs in the midst of disorder of the health generally, and upon which, in such instances, I have no doubt it very materially depends.

I shall not here notice any plan of treatment adapted to the forms of inflammatory indigestion, having said enough on this subject in my previous work.

The grand indication in the treatment of ulceration of the stomach is to bring about cicatrization of the ulcer, and this I believe will be best accomplished in the following manner, at least it is the mode I have generally found most successful.

The patient must be limited to the smallest possible quantity of food under which he can be tolerably comfortable, but the wants of the stomach on this head must be satisfied, for if any degree of craving, or irritability be induced by the abstinence, it is carried too far. It must have been noticed by all that have had the care of patients with ulceration, that they are tolerably easy except after a meal. They should never be suffered to take

meals, properly so called; we should first attempt to discover what kind of food they are most easy under, and small quantities of this should then be taken every two hours, so as to prevent the appetite ever experiencing the sense of hunger, or ever feeling a desire to satisfy it by eating a tolerably hearty meal. It is almost impossible to lay down any rules as to the kind of food under which a patient with ulceration will be most comfortable; it very commonly happens that light animal food agrees better than a farinaceous diet, and I have occasionally found cold weak brandy and water in such instances the best sedative. The stomach must never be distended by food, nor any kind of food administered which so far disturbs the digestive powers as to give rise to the evolution of much gas during digestion, which in itself, is nearly as great an evil as distending the stomach by food. The next point is the condition of the epigastrium, if there be tenderness on pressure, or heat in this situation, leeches must be applied in quantities suited to the powers of the patient till it is removed. Even in the advanced stages of disease, local bleeding from this is highly serviceable; it diminishes congestion, and renders the attacks of pain less frequent and violent. Employed after attacks of pain it relieves that venous distention occasioned by them, which frequently terminates in hæmatemesis. When the stools are black or bloody, it is highly useful, frequently changing their character by diminishing the congestion or inflammation in the stomach, and checking the exhalation of blood from the ulcerated surface. Hæmatemesis frequently relieves all the symptoms of ulceration, sometimes, for weeks; but we must recollect a patient may die, and commonly does die during the attack, these efforts of nature therefore should be imitated by the employment of means likely to bring about the same result. If the epigastrium be indolent, and the stools natural, or nearly so, the next remedy of importance is counter-irritation by blisters, the antimonium tartarizatum, or other remedies; this should be persevered in constantly and unceasingly, as long as disease remains. I do not think setons productive of much good. I have seen them useless where repeated blistering has afforded great relief. Fomentations laid on the epigastrium and kept on for several hours, sponging this region night and morning with very hot water, reposing in a tepid bath for a considerable time daily, are all remedies that may be employed with advantage. The patient is always worse during constipation; the bowels are best regulated by enemata. If aperients be given they should be of the very mildest character; a few grains of rhubarb with a tenth or twelfth of the muriate of morphia,—the ponderous carbonate of magnesia prepared by Henry or Howard, administered in some infusion of orange-peel, or mint tea, are remedies sufficiently active; the common magnesia is worse than useless. After cicatrization has even taken place all active purgatives should be avoided. M. Cruvielhier records a case of rupture of a cicatrix from violent aperients administered to relieve an apoplexy. The violent peristaltic action of the stomach induced by the aperient had ruptured the cicatrix of an ulcer. Internal remedies are exhibited in ulceration of the stomach with several objects. To relieve pain, to facilitate cicatrization, to check the oozing of blood from an ulcerated surface, or lastly to remedy some general constitutional weakness or irritability which appears unfavorable to the healing of the ulcer.

To answer the two first indications minute doses of morphia may be administered with the trisnitrate of bismuth. The nitrate of silver, first proposed by Dr. James Johnson, will be found very serviceable with this view. The sulphate of iron also may be employed; there is sometimes a sponginess of texture in the mucous membrane in long continued cases of ulceration when these latter remedies are highly beneficial. There is occasionally also a great degree of debility, of langour, of laxity of tissue accompanying ulcers of the stomach, in which the exhibition of tonics becomes necessary, and in such forms of disease the carbonate of iron, or even the mis-

tura ferri comp. are employed with great benefit. Every thing that affects the constitution generally, has an effect upon the healing of the ulcer, and hence the condition of the health generally demands our strictest watchfulness; the functions of the skin; the state of the bowels; the urine; the epigastric region, all demand unceasing attention. I would impress upon the reader that ulcers of the stomach commonly cicatrize, as the state of the general health under which they first made their appearance improves. It is true that they more immediately depend upon the pathological condition of the stomach, but this is most commonly the result of general constitutional causes.

The great difference which exists between the treatment of ulcer of the stomach in the female and in the male, depends chiefly upon the general condition of the economy in which the diseases separately occur, and the pathologic character thus induced in the stomach in which the disease is seated.—*Medico-Chirurgical Review, October* 1838.

From the Philadelphia Medical Examiner, July 1839.

An Account of a Recent Epidemic Dysentery, of South Alabama. By H. V. Wooten, M. D., of Lowndesboro', Alabama.

It is not my purpose to offer any observations, having claim to novelty, on either the nature or treatment of dysentery. But, having recently enjoyed pretty extensive opportunities of witnessing its varying character, and of reducing to practice several of the plans of treatment which have been much spoken of of late, I have thought proper to mention the results, with whatever remarks they may suggest.

Dysentery made its appearance in this place about the middle of April last, and continued, with more or less violence, until the middle of June. The town is situated upon a high ridge of land, which separates the low lands of the Alabama river from the large prairies. The soil is of a gravelly, or sandy character, with abundant water springs, and of the clearest freestone. This ridge is generally quite healthful, perhaps as exempt from autumnal bilious fevers as any spot in South Alabama, and it is rarely troubled with epidemics. This spring, however, dysentery has prevailed with considerable violence here, while the flat lands and prairies have been nearly exempt; nor has it prevailed any where in this part of the state, to my knowledge, so generally and violently as here.*

Varying as it did, in its symptoms and intensity, to facilitate the history of the treatment, I will divide it into two classes, or grades:—The first grade, characterized by violent griping and straining, with small muco-sanguineous evacutaions, very frequent at the onset of the disease; pain mostly of the spasmodic character in the umbilical region, recurring at very short intervals; very little soreness on pressure, in the beginning; pulse full, strong, and frequent; oppression in the epigastrium; vomiting sometimes troublesome; febrile reaction high; sometimes slight delirium; countenance flushed; eyes yellowish; tongue covered with a thick, dry, dark-brown fur, with a deep furrow in the centre; edges red and pointed; in many cases the urine was suppressed during the violence of the disease. These cases, if not early met by thorough treatment, generally ran a tedious and painful course.

Second grade:—Frequent evacuations, attended with pain, more or less severe; discharges larger and more watery than in the first grade, and

* Since writing the above, I have learned that it prevailed at the same time in a few other places, and in some with considerable fatality.

pain only on evacuation; pulse a little frequent, but otherwise natural; febrile reaction very slight; tongue generally clear of fur, moist, edges red. The symptoms, if neglected, generally increased in violence, and the case became very nearly like one of the first grade, in the second stage. These cases, like the others, if not treated in proper time, ran a tedious course, recovering very slowly. It will be observed that the most important difference in the two grades, was the great biliary disorder which existed at the onset in cases of the first grade, and the comparative want of it in the second grade, which appeared to be more particularly an inflammation of the mucous coat of the intestines. I have only attempted a description of the symptoms in the early stages; they were subsequently modified by various causes, which, however, should not be set down to the disease.

I had witnessed the disease in the marshy regions of Georgia, in the same latitude; and although the treatment was generally successful, it was not altogether satisfactory,—and when the disease was presented to me here, I felt somewhat at a loss for the proper course to pursue. My confidence was first directed towards *Hope's astringent mixture.* The mineral acids have long been recommended in this disease; but my confidence in this particular preparation was greatly increased by the short article on the subject by Dr. Meigs, published in the first volume of the Medical Examiner. Having, during my pupilage in Philadelphia, formed a very high estimate of the professional ability and moral integrity of Dr. M., I felt no hesitancy in relying upon his recommendation of the mixture, and, accordingly, used it on the first opportunity. At first I gave it as opportunity offered, not regarding the character or stage of the case; but often, when "six doses" and more, had been given, no perceptible benefit was produced. In some cases, however, it appeared to have some influence in lessening pain, while all the other symptoms continued unchanged; I discovered, that when called to a case, after purges of calomel or castor oil, or both, had been used, the mixture was more likely to produce immediate benefit, and effect a cure. Having given it a fair trial, and found it unavailing in many cases, it was discontinued for a time, during which, combinations of calomel and opium, ipecacuanha, castor oil, &c., were used; and, on the resumption of the mixture, it was found to produce the most happy effect. The cases of its application to which I have alluded, were of the first, or biliary grade; and I am convinced that but little confidence can be placed in the acid mixture for their cure, until the heavy congestion of the liver and the portal circulation is removed; and, for this purpose, I have found it necessary to excite the secretory action of the liver by calomel or blue mass, pretty freely exhibited, and purged off by castor oil. For exciting this action, I have always found the alterative action of the acid mixture entirely too weak; but, after this action has been well established, I know of no medicine to perpetuate such action, and, at the same time, address directly the irritation of the bowels, in which I have greater confidence than in the mixture alluded to.

In the second class, or milder grade, the mixture was more generally applicable, requiring often only a simple purge, as of castor oil, to prepare the way for its best effects; yet, it was found in all cases, even of the lightest grade, to act much better after such purge, than before; and in many cases of this class, which had been neglected until the glandular functions had become much disordered, the most thorough alterative action of calomel was required, before the beneficial action of the mixture could be induced. In these cases, however, I sometimes found the system ready prepared, the patient having taken these medicines before calling my attention to the case, and under such circumstances, I resorted to the acid mixture immediately, with satisfactory results. Witnessing these facts, and drawing their deductions, I was forced to the conclusion, that a preparation was always important, and frequently necessary, for the good effects of the acidulated mixture, more particularly in the bilious form of the disease.

For this purpose, when pain was severe, and reaction high, I found great benefit in free venesection; this not being indicated, or already done, I gave

Hydrag. chlorid. mit. gr. x.

Pulv. ipecac. et opii. gr. xx.

To be administered every third hour until four doses had been taken, to be followed, in three hours by castor oil, and laudanum, if required, to alleviate pain. In some cases, where the pain was not so violent, and the stomach not irritable, one grain of ipecacuanha was substituted for, or added to the Dover's powder. The ipecacuanha seemed more particularly applicable to the cases of children. In illustration of my plan of treatment, I will give here a short sketch of a case: Mr. L., æt. twenty-four, of bilio-nervous temperament, good constitution and moral habits, was attacked seven days ago with the mild, or second grade of the disease; this being treated by anodynes alone, gradually assumed a more formidable character, and at the time of visit was marked by heavy glandular disorder, with violent mucous inflammation of the intestines, presenting all the worst symptoms of the first grade, with considerable exhaustion. He was purged, without permanent benefit; the acid mixture was then instituted, f℥ ii. being given every fourth hour. At the administration of the seventh dose, no appreciable benefit was produced. Tongue dry and thickly coated, with a deep furrow and red edges, as above described; febrile reaction high; slight delirium; oppression in the epigastrium; anorexia, &c. The calomel and opium course was then applied, on which copious evacuations of vitiated secretions, bile, &c., appeared. These ceased after the action of the medicine, and the evacuations had the appearance of returning to their former condition, sero-sanguineous, frequent and painful,—when Hope's mixture was again brought into service with immediate benefit, healthy secretions returning gradually, and general condition improving. This case fairly represents the ordinary results of my practice during the prevalence of the disease. It may be said that the calomel made the cure, without the aid of the mixture; this, however, would be an unjust conclusion, as the secretions were rapidly falling back to their former depravity when the mixture was resumed, which undoubtedly perpetuated the action excited by the calomel. It was sometimes necessary to repeat the calomel and opium daily for two or three days. As a simple purgative, I have found nothing so good as the castor oil; I have known several respectable practitioners, who used the Epsom salts altogether as a purgative in this disease, and from their recommendation I have been induced to use it myself, but from the results that I have met, I greatly prefer the castor oil. When the irritation is primarily and chiefly in the intestines, and the liver in a healthy state, the salts, acting as a depletant, may do much good; I have myself seen much benefit arise from its use in such cases. But in this climate, the long and excessive heat of summer, keeping up an over-action of the liver, places that organ in an almost exhausted condition, rendering it the weak point for the invasion of disease,—and whenever disorder, from any cause ensues, affecting the portal circulation, the liver is generally found incompetent to the performance of its functions, which is not unfrequently our greatest hindranee in the removal of the disease; this is particularly so in the epidemic dysenteries of our climate. The salts, by producing a depletory effect, may, for a time, suspend the necessity for the liver's action, but will not restore to it that action which is important to the recovery of health. Moreover, when we have given an alterative, destined particularly for the secretory function of the liver, it seems to me absurd to set up a directly counteraction upon the intestinal exhalents. Sometimes, it is said, the suspended action of the liver is owing to an engorgement of its vessels, and that the salts, by their depletory action, relieve this obstruction. Granting this fact, the salts should be administered in such cases before the calomel or other alterative, and not as is usually done, after it; but where no other than depletory action is required, I

prefer the lancet. Castor oil, on the contrary, producing no unnatural discharge from the bowels, but simply exciting the peristaltic motion of the intestines, thereby emptying them of their contents--perhaps the products of the alterative—seems to me an apt adjunct to the use of calomel, when purgation is desired. These considerations, with the recollection of the fact that mucous secretion, and not serous exhalation, is the natural product of the intestinal mucous membrane, have led me to the constant preference of the oil in this complaint, and all others where a promotion of hepatic action is desirable.

When the tenesmus and griping were severe, great benefit was frequently derived from a combination of rhubarb and Dover's powder, each gr. x, given every second hour until the pain and discharges were moderated. It often quieted the irritation, aad produced consistent evacuations, thus greatly relieving the worst symptoms of the disease. This was rarely permanent, however, unless the secretions had been previously restored to a proper state; consequently, I have confidence in this combination no further than its alleviation of irritation, for which it is an excellent remedy. The balsam copaiva was also tried; I did not resort to its use in the early part of the epidemic, nor until after I had become convinced of the propriety of first restoring the secretions in all serious cases, which I am satisfied, was the proper time for its application. I observe in the essay of Dr. La Roche on the subject, that in all the cases which he instances of its best effects, it was given after purgation; and it seems that those cases in which the blue mass had been previously used, were the most signally benefitted by the balsam copaiva. The cases which he reports were prepared by other medicines for the action of the copaiva, or such as had become chronic, the inflammation of the bowels being the most important disease to be remedied. In either case, its use corresponds with my experience given under these circumstances,—its remedial powers were strikingly happy. In one case, that of a child, in which every other remedy had failed, and ulceration had apparently ensued, it acted promptly and efficiently, producing a speedy recovery. In some cases I have no doubt, that from long neglect, and the violence of inflammation, it may become so permanent, and the discharge from the mucous membrane so habitual, as greatly to counteract the action of alteratives on the liver and other secretory organs, in which circumstances it becomes necessary to address our remedies to the mucous membrane first. And, further, I have no doubt that this state of things occurs in a greater proportion of cases in the practice of Dr. La Roche and Dr. Meigs, than mine, or the general practice in this climate, not owing particularly to the causes just mentioned, but to the great difference of climate, or rather its effects on the human system; for in nearly all these disorders in this climate, the liver is primarily involved, while such is not the case in Philadelphia, which may well account for the different results from the use of the same remedies. In cases where mucous inflammation was to be particularly addressed, I found the balsam copaiva a very excellent remedy. I use it according to Eberle's formula:—

℞. Balsam copaiv. ℥ ss.
Pulv. gum. arab. ʒ ii.
Sacch. albi. ʒ iii.
Aquæ. font. ℥ viii.
Tinct. Opii ʒ i.

A table spoonful every fourth hour.

In the chronic stages of mucous inflammation, where the existence or approach of ulceration is apprehended, I would rely more on the copavia than any other medicine.

The acetate of lead was used in several cases, but its use was so barren of good as to cause its early abandonment. Opiates alone, were used in some cases, but they only had a temporary anodyne effect, the disease al-

ways returning with its former violence on the withdrawal of the medicine. The use of anodyne and mucilaginous injections was resorted to in many cases: but, unfortunately, those cases which most urgently demanded their influence, could not tolerate their presence, and they were immediately rejected, so that benefit from this source was rarely to be obtained.

In a very few cases, which appeared rather tedious under the ordinary remedies, I tried the use of nux vomica, as recommended by Mr. Vaux, through Dr. Armstrong. It seemed to exercise some anodyne influence; but, on increasing the dose to the amount advised, (seven grains,) its peculiar constitutional effects were such as to stop its use. I did not make a full trial of this article.

In many cases where griping was frequent and severe, much benefit was derived from the warm bath.

I have observed the disease closely, not only here, but in the same latitude elsewhere, as above mentioned, and in the practice of an excellent physician. Never being wholly satisfied with any particular remedy, or course of treatment, and always viewing the disease as one distressing in its operation, and dangerous in its results, I have, while watching its varying character, been equally watchful in applying various remedies, as I thought them indicated. The comparative efficiency of these I have thought it unnecessary to mention, except, as applied during the *same epidemic*, frequently in the *same case, and altogether under the same circumstances*,—and this, the trials being pretty extensive, I have thought interesting;—on which account I have given the above sketch, from which the following conclusions may be drawn:

1st. That, in all cases of dysentery, occurring in this climate, the liver is either primarily or secondarily involved, producing a suspension of its secretory action, which has a direct tendency to increase and perpetuate the philogosis of the bowels, and that this organ must be restored to its due action before a cure can be effected.

2d. That, to restore the secretory action of the liver, (depletion being premised when indicated,) nothing can be fully relied on but mercurial preparations, given in quantity and continuation sufficient to the purpose; and that calomel is to be preferred, succeeded by castor oil, to produce gentle, but free purgation.

3d. That to alleviate pain and stay the spasmodic action of the intestines, opiates should be given with the calomel, in the quantity required, and the stomach allowing, ipecacuanha should be added, with a view to its diaphoretic effect.

4th. That, when the secretory action of the organs involved has been restored, and it is desirable to perpetuate that action, and at the same time allay mucous irritation, nothing is more to be relied on than Hope's nitrous acid mixture, freely given.

5th. That, where the advanced stage of mucous inflammation is to be combated, as the main object in view, the balsam copavia is the best remedy.

6th. That, much suffering may be saved by the proper use of the warm bath and anodyne injections, when they can be retained.

7th. That, under all circumstances, a regular action of the liver and other secretory organs, should never be lost sight of.

8th. That proper dietetic treatment is all-important.

It may be proper, in conclusion, to remark, that I am indebted to my friend and copartner, Dr. H. P. Perry, for much of the opportunity which I have had of observing the disease, and the use of remedies; and further, that during the entire prevalence of the disease, we had but two cases to terminate fatally, both children under two years old, and one suddenly, evidently from intussusception.

Lowndesboro', June 21st, 1839.

Brief Rules of Exploration of the Chest, in Diseases of the Lungs and Heart —By Jacob Bigelow, M. D., Physician and Lecturer on Clinical Medicine at the Massachusetts General Hospital.

[Communicated for the Boston Medical and Surgical Journal.]

Since the discoveries of Laennec, which have constituted the most important acquisition which medical science has received during the present century, various treatises of a general or partial character have appeared, on the subject of exploration of the chest. Although the experience of more than twenty years has tended to confirm rather than invalidate almost all the laws established by that distinguished man, yet a good deal of refinement and of modification has been introduced into this branch of science by some of the more voluminous writers on the subjects which it comprehends. Many physicians and students, it is apprehended, are on this account deterred from making themselves familiar with the fundamental principles of an art, without which no accurate knowledge can be obtained of the nature or degree of thoracic diseases.

For this reason it has appeared to me that a brief and intelligible exposition of the more essential laws of this art, as it is practised at the present day, would not be unacceptable to a large part of the medical profession. Such rules at least are more easy of remembrance and of application, than the extended discussions of more diffuse writers.

In the physical exploration of the chest, a series of problems for solution is presented to our attention by the external phenomena of that part of the body. Each of these phenomena is a sign bearing a fixed and definite relation to some particular conditions of the internal organs. By a correct interpretation and comparison of these signs, we arrive at a knowledge of the state of the organs, whether in health or disease, which without them it would be impossible to obtain.

Of the Examination of Shape.—In perfect health the chest is for the most part symmetrical and equally proportioned. In disease certain changes of form are liable to take place, and to these it is necessary that the observer should direct his attention. The patient to be examined should sit erect, in a warm room, with his chest uncovered, and the arms down in similar positions. He should be placed directly opposite to a front light, since unequal or side lights produce deceptive impressions in the comparison of prominent or depressed surfaces. The following circumstances should then be observed, and the inferences resulting from them should be tested by the other modes of exploration.

If one shoulder, including the scapula, is constantly raised, it may proceed from curvature of the spine, from pleuritic effusion, pneumothorax, or more rarely from an internal tumor. If the spaces above and below the clavicles, or those between the ribs, project on one side more than is natural, we may suspect emphysema, pleurisy, or pneumothorax, on that side. If the same spaces be preternaturally depressed, there are frequently adhesions of the pleura underneath them, with sometimes cicatrized cavities, in the lung; or the lung, after being compressed by the disease, may not have recovered its due dilation. A prominence in the region of the heart is natural in some persons. When preternaturally great, if it be pear-shaped, with its perpendicular diameter longest, it should lead us to suspect pericarditis. If it be oval and transverse, there may be hypertrophy of the heart. But these characters are by no means constant. Various irregularities in the conformation of the chest, arise from softness or other change of the bones in rickety constitutions, and they may also take place in some persons, especially children, without any important disease.

The sides of the chest may be successively measured by carrying a string or tape from the middle of the sternum of the spinous process of the vertebra, below the nipple, or on the level of the greatest apparent projection. If one side is found decidedly larger than the other, there is reason to apprehend

the effusion of fluid, or less frequently of air into the cavity of the pleura; or the enlargement or morbid growth of some internal part.

Of Percussion.—The art of percussion is founded on the familiar fact that a hollow body resounds when struck, while a full body does not. Thus in percussing a cask, or the inner wall of a house, we can decide whether it is empty or filled up, and in most instances can determine where the vacant space begins or ends. Percussion is employed in medical practice to indicate the condition of that part of the body which is immediately within the point percussed. Any portion submitted to this test, will sound more or less hollow, in proportion as air, or a denser substance, predominates in the spot upon which percussion is made.

As it is sometimes painful to the patient to percuss directly upon the surface of the body, it is now common to employ an intermediate substance, called a pleximeter, to receive the impulse of the blow. Various pleximeters have been employed, made of ivory, wood, and India rubber. But one of the most convenient is the finger of the hand of the operator which is not in use, laid firmly and flat on the surface which is to be percussed. It may be variously turned, at the discretion of the operator, to fit the different curvatures of the chest. But in comparing corresponding parts, care should be taken that the finger used as a pleximeter should be placed at the same angle, upon each part, as that it be held upon it with equal pressure. For want of attention to this point, important mistakes are committed.

Percussion is commonly performed with the ends of all the fingers at once, holding them so that the last phalanx shall be perpendicular to the surface percussed. A single finger answers the purpose in many cases. The stroke, or tap, should be short and quick, since in this way the clearest sound is elicited. Percussion requires to be repeated with different degrees of force, in estimating the seat of morbid changes. For superficial affections, slight percussion is sufficient; but to elicit the modifications of sound which belong to deep-seated changes, more forcible percussion is needed. It is desirable, however not to give pain to the patient in any case.

Some inconvenience is experienced from disadvantageous positions, when we precuss surfaces of different obliquity, and especially on the side next the operator. To obviate this difficulty, I have used, in the Massachusetts General Hospital, for the the last three years, a *percussor* formed of an elastic ball of woollen yarn, covered with velvet, about an inch and three quarters in diameter, with a handle five inches long. This instrument has the advantage of great freedom of motion, as evinced by the circumstance that the operator may percuss with it any part of his own chest. It has also the mechanical advantage, that the centre of percussion falls within the percussing part, which is not the case when the hand is used. Its use is attended with much more despatch than that of the fingers, and the sound of one may be employed to test that of the other. The tone varies in proportion to the hardness or softness of the ball, in regard to which a medium is best. It is carried inserted in a sethoscope, the ear-piece of which, if thickened and used edgewise, makes a good pleximeter, more convenient to hold than any other.

For the satisfactory performance of percussion, the patient, if able, should sit up, either uncovered or with a single thickness of covering. It is essential, when opposite sides are to be percussed, that their position and covering should be similar, to enable us to form a just comparison. While the anterior surface is percussed, the patient should sit erect, with the shoulders back, and both arms in the same position. When the posterior surface is percussed, he should fold the arms and stoop forward. To facilitate percussion under the axillæ, the arms should be raised over the head. When the patient is too sick to sit up, the operation becomes more difficult. Still we are able to percuss the anterior and lateral parts, and if the patient can turn upon his sides, the back also becomes accessible.

In health the percussion is most resonant where there is most lung, and the least integument, muscle or bone. It is therefore most sonorous in the axillæ, and in the inferior regions of the chest. It is somewhat less so below the clavicles, and still less so upon and above them. It is dull upon the spine and the scapulæ, and somewhat so upon the mammæ and pectoral muscles. Yet these latter give a sufficient sound, if properly compressed by the pleximeter.

The two sides of the chest should sound alike in healthy persons, with the exception that the part of the left side occupied by the heart gives a duller sound than the corresponding part on the right side. This portion, called the præcordial region, extends from the middle of the sternum to the left nipple, and from the base of the chest, obliquely to the junction of the sternum with the third or fourth rib. A source of inequality is found in the lower part of the left chest, from its proximity to the stomach, in consequence of which it becomes resonant when that organ is distended with gas. But in this case the sound is peculiarly sharp and tense, having the tone which Piorry has denominated *stomachal* resonance. The right side, also, at its lower part emits a duller sound, from the proximity of the liver. With the foregoing exceptions, the healthy chest should sound alike, or nearly so, on the corresponding parts of opposite sides. And if there be a constant and evident difference in the sound elicited by percussion from the two sides, we are justified in inferring that one side or the other is a seat of disease. In estimating the results of percussion, we should not compare different individuals with each other, except in cases of great peculiarity, for perhaps no two individuals yield precisely the same sound, owing to the size of the chest, the amount of integuments, &c. But the same individual may always be compared with himself.

Normal sounds are those which are naturally emitted by healthy persons under exploration. In disease the sound of percussion is liable to become *preternaturally* resonant on the one hand, or *dull* and *flat* on the other. The sound is termed preternatural, when the part percussed is more resonant than in health. If the resonance is excessive, it is called *tympanitic.* It exists in emphysema, in which disease the air vesicles are enlarged; also in pneumothorax, in which air exists in the cavity of the pleura.

The sound of percussion is termed *dull,* when the resonance of the chest is less than natural; and *flat,* when there is little or no resonance, the sound in this case resembling that which would be yielded by the fleshy part of a limb, if percussed. Dull and flat percussion are different degrees of the same thing, and take place when a portion of light vesicular lung is replaced by a denser body. This may be a foreign or different substance, such as an enlarged heart, a tumor, or an effusion of fluid; or it may be a portion of the lung itself consolidated by disease, as in hepatization, and tuberculous infiltration, the former occurring in pnuemonia, the latter in phthisis.

If the chest emit a dull or flat sound, which shifts its relative position whenever the body is moved from one posture to another, always occupying the lowest situation, we may conclude that there is effused fluid, which by its own gravity seeks always the lowest level.

There is a peculiar sound sometimes heard in percussion, which is dull and jarring like that of a cracked earthen vessel, and called by the French *bruit de pot fêle.* It is best heard during expiration, and with the patients' mouth open. It occurs in phthisis, and indicates a cavity in the lung, immediately within the percussed part. The diagnosis is rendered more certain if on light percussion that part gives a dull sound. In rare cases the cracked sound is met with when the lungs are healthy.

Auscultation.—Auscultation is the art of estimating by the ear the nature of the different sounds produced by natural process within the body, more particularly within the chest; and of explaining these sounds by reference to their causes. These sounds may be heard most perfectly by the immediate

application of the ear to the surface of the body, and this method is called *immediate* auscultation. It may also be heard by interposing between the ear and the patient's body, a solid substance capable of conducting sound, and this is called *mediate* auscultation. When a person breathes or speaks, the walls of the chest are made to vibrate in a manner which corresponds to the vibration of the parts immediately within them. This vibration is variously modified by disease, so that to the cultivated ear, the vibration of the walls of the chest expresses the pathological condition of the internal organs.

For most purposes immediate auscultation is preferable to mediate, since it is practised with greater ease and despatch, and in most cases gives more satisfactory results. But Laennec, the discoverer of auscultation, introduced an instrument, called a sethoscope, which is a hollow cylinder made of some light wood, having a broad surface for the ear at one end, and a trumpet-shaped cavity at the other. The trumpet-shaped extremity collects the vibrations of sound from a considerable space, and these are conveyed through the instrument to the ear. The original sethoscope of Laennec was a large and clumsy instrument, and is now superseded by others of more portable form and dimensions. Although the discoverer of auscultation seems to have considered his instrument as indispensable, and styled his great work a treatise on "Mediate Auscultation," yet the best auscultators of the present day make comparatively little use of instrumental assistance.

The chief cases in which the sethoscope is wanted in practice are, 1. To examine the depressed surface of the chest, into which the ear cannot be inserted. 2. To explore very small spots or diseased portions of very limited extent. 3. To determine the exact boundaries of a pathological affection. If this is attempted by immediate auscultation, the observer is liable to be deceived in consequence of the conducting power of the bones of the hand. 4. When circumstances unconnected with science are opposed to immediate auscultation, such as the modesty of females and the squalid condition of the lower orders.

The patient to be auscultated should be placed in an even and easy position, so that one side may not be more prominent than the other, and the muscles may be equally relaxed. The erect position is to be preferred, when the patient's strength admits it. The less covering is left on the chest the better, and especially all substances which may produce a fallacious sound, as silk and woollen, should be removed. These precautions being attended to, the ear should be applied to different parts of the chest in succession; or if the sethoscope is used, it should be placed even, so that every part of its orifice may be in contact with the surface of the body. The attention should then be directed to the natural respiration, and to the respiration when forced by more rapid efforts of the patient. Afterwards the voice is to be attended to, and finally the sound of the cough. In all these a careful comparison is to be made between the sound emitted from corresponding parts of the two sides.

In immediate auscultation the ear is most easily directed to parts which correspond on opposite sides, by placing a finger underneath it as guide, and removing and replacing this by inspection. It is also useful in immediate auscultation to vary the position of the ear, by sometimes turning off the head so as to liberate the meatus, and still receiving the sound through the bones of the cranium. This may correct our first impressions. In this way a double sound of the heart can often be heard, when only one is heard by immediate application of the ear.

Two sounds are produced in natural respiration, and may be heard in every healthy person. The first of these, called *vesicular* respiration, is a soft breezy expansive murmur, which is audible when the ear is applied to most parts of the chest, but particularly the lower parts. It is confined chiefly to

the act of inspiration, and the expiratory sound is scarcely heard in health, except in the upper and posterior parts, and in these places it is weaker than the sound of inspiration. The second, called *bronchial* respiration, is a more harsh and blowing sound, and may be heard in its greatest intensity by placing a sethoscope on the trachea, from which circumstance the highest degree of bronchial, is called *tracheal* respiration. It is heard in a less degree opposite the root of the lungs, between the scapulæ and the spine. It occurs both in inspiration and expiration.

Vesicular respiration is apparently produced by the entrance of air into the pulmonary vesicles. Bronchial respiration seems to be caused in part by the passage of air through the bronchi and their branches, but is chiefly conducted, like broncophony (hereafter described,) from the fauces and larynx. In health there is somewhat more bronchial sound on the upper part of the right side than the left, owing to the right bronchi being largest. The sounds in different individuals are found to vary greatly in intensity, owing to natural differences in the structure of the integuments, and the contents of the chest. But when in the same individual there is a difference in opposite and corresponding parts of the chest, and the difference is not to be accounted for by their mechanism of the chest, which has been already explained, we infer the existence of disease. We suspect disease when the vesicular sound of any part is comparatively diminished or increased; also when it is replaced by bronchial respiration in a part to which the latter does not naturally belong.

When the respiratory sound is particularly feeble, or absent in any of the anterior parts of the chest, we suspect the existence of emphysema, or dilatation of the pulmonary vesicles, especially if there is a degree of roughness in whatever sound is heard; and the diagnosis is confirmed if there is resonant percussion. If feeble or absent respiration occurs at the posterior or inferior parts of the chest, we suspect pleurisy, and proceed to test the correctness of our diagnosis, by examining for the other signs of that disease. If feebleness be confined to the apex of the lungs, there may be tubercles; and if it varies, by recurrring at periods of short duration, it is owing to the mucous obstructions attendant on bronchitis.

When the respiratory sound of any part of the lung is preternaturally loud, but otherwise healthy in its character, it constitutes *puerile* respiration, so called by Laennec, from its resemblance to the loud respiration of children. When this sound is universal, it merely indicates activity or functional excitement. But when it is confined to any one part of the chest, we at once suspect that some part is diseased, for when one part of the lungs is disabled by disease from performing its proper function, the remaining parts take on a *supplementary* action, attended with greater labor and more sound.

When bronchial or harsh respiration is heard in parts where it ought to be vesicular, and especially if the expiration is bronchial, we infer that there is disease in the part thus affected. This is very commonly an induration of a part of the lung, by which the vesicles are filled up or consolidated, so that the vesicular sound is destroyed, while the consolidated portion conducts the sound from the bronchi directly to the ear. This happens in pnuemonia, in which a part of the lung is hepatized; an affection which may occur in any part of the chest, but chiefly in the back; or it may take place in phthisis when a part of the lungs, usually near the summit, is indurated by tuberculous infiltration. Bronchial respiration is often heard in pleurisy, apparently when the effusion of fluid is such as to compress the air visicles without compressing or obliterating the bronchi. It is also heard when a bronchus is preternaturally dilated.

Rude or rough respiration is a mixture of bronchial and vesicular sounds. It is heard in incipient phthisis, and in the lesser degrees of pneumonia and pleurisy.

When bronchial respiration is intense, so as to resemble the sound of air blown into the ear, it has been called *tubal*. The circumstance which is best suited to produce this sound is a dense hepatization, extending from the pleura to the trunk of a large bronchus.

Cavernous respiration is a modification of the bronchial. Its sound is so modulated as to convey to the ear the impression of air being alternately drawn into and expelled from a cavity. It is commonly of small extent, and indicates an excavation of moderate size in the lungs. It is most clearly pronounced in tuberculous cavities, the walls of which are indurated. It may also exist, though more rarely, in abscess, in cavities from gangrene of the lungs, and very large bronchial dilatations.

Amphoric respiration is well marked, and easy of recognition. It closely resembles the sound produced by inflating a recent bladder to a great degree of tension. It also is compared to the sound produced by blowing into a glass bottle or tumbler held near the mouth. It indicates the existence of large cavities, with firm or tense walls, around which the air reverberates in breathing. It accordingly exists in large tuberculous excavations of the lung, and less perfectly in the cavities which follow gangrene. In pneumo-thorax it is often highly distinct, especially if a free fistulous opening exists between the cavities of the pleura and bronchi, permitting the entrance and egress of air.

The sounds hitherto described are a sort of modification of the natural respiratory noise. There remain to be considered certain adventitious sounds, which are not present in healthy respiration, but occur in different diseases. These are commonly designated by the French term *râles*, which is the name originally given them by Lænnec. The Latin name *rhonchus*, or rhonchi in the plural, is used to express the same thing. The English term *rattle* is sometimes used, but is liable to obvious objections.

The *sonorous* râle is a continuous sound, of a louder character than the rest, and has been compared to the pipe of an organ, the bass string of a viol, the creaking of a wagon wheel, or the cooing of a pigeon. It is heard both in inspiration and expiration. It commonly attends bronchitis or pulmonary catarrh, and is supposed to be caused by a thickening of the mucous membrane in some of the larger bronchi.

The *sibilant* râle is continuous like the former, but is more acute in its tone, resembling a low whistling sound. It is supposed to be produced in the smaller bronchial ramifications. It occurs in catarrhal affections, in which it is fugitive and often changes its place; also in emphysema, and in typhoid fever after the first week.

The two foregoing have been called *dry* râles, to distinguish them from those which follow, and which have been styled *moist* or *humid* râles. But there seems to be no good foundation for this distinction, since the facility with which the sonorous and sibilant râles change their places, appears to indicate the presence of fluid in the bronchial passages.

The *crepitous* râle, sometimes called the fine crepitous, has been compared to the crackling of salt thrown upon the fire, or the rubbing of one's own hair between the fingers close to the ear. It accurately resembles the sound of champaigne or soda water, held in the mouth in a state of effervescence, or of the electric fluid drawn from a sharp point. It is sometimes heard after cough, when otherwise inaudible. It is most distinctly heard in common cases at the end of the inspiration. It belongs exclusively to pneumonia, and is pathognomonic of the first stage of inflammation, or that of pulmonary *engouement*. It is said to be sometimes heard in healthy persons on a single forcible inspiration, after which it disappears.

The *sub-crepitous* or *coarse crepitous* râle, resembles the former, but differs in the size of its bubbles, which are larger and more unequal, forming altogether a coarser sound. It is heard in catarrh, in which case it is usually audible on both sides at once. It exists in œdema of the lungs, and in

pneumonia, when that disease is passing into resolution. If it is heard only on one side, and is confined to the top of the chest, we may suspect tubercles.

The *crackling* râle, *craquemént* of the French, is a coarser sound than the last, and resembles a short valvulas flapping. It is heard best immediately after cough, during the first inspiration, and affords the first sure indication of the softening of tubercles. It is usually met with at the top of the chest.

The *mucous* râle is a rattling sound, more loose and coarse than any of the preceding, and giving the impression of a fluid traversed by air in the bronchial passages. It is heard in all diseases of the lungs which are attended with a copious secretion of mucus or pus, such as catarrh, the advanced stages of pneumonia, and phthisis. A lesser degree of this sound is called muco-crepitous.

Gurgling râle, *gargouillement* of the French, is a bubbling sound, caused by the passage of air through a quantity of fluid contained in a cavity. It may exist in cavities produced by pneumonia, gangrene, or a dilated bronchus; also in the trachea and its large branches. But by far the most common source of this râle, is a cavity formed in the lungs in phthisis. It often alternates with cavernous and amphoric breathing, and apparently takes place whenever the level of the fluid rises above the bronchial orifice which supplies the cavity with air. It may often be produced by coughing, when it is not audible in any other way.

The sign called *metallic tinkling* resembles the snapping of a short musical wire, or it is like the sound of a glass or silver vessel when struck by a pin. It requires for its production a cavity having tense or undurated walls, and containing both air and liquid. It indicates the existence either of pneumo-thorax, or of a large tuberculous cavity. The immediate cause of metallic tinkling is the forcible or sudden disturbance of the liquid in a cavity like those mentioned. The explosion of bubbles of air from beneath the surface of the liquid, appears to be the most common cause of such a disturbance; but it may take place when a part of the liquid is thrown upward in the act of coughing, and falls back upon the remainder. A minor, or *sub-metallic* tinkling, having no musical resonance, may be produced by slight impulses given to the air in the cavity, such as the breaking of bubbles of mucus at orifices above the surface of the liquid.

The *sound of friction, bruit de frottement*, has been compared to the rubbing together of two pieces of leather. It conveys the idea of difficult friction, in which two opposing surfaces in close contact alternately move and catch upon each other. It is sometimes not only audible, but palpable to the hand. It exists in dry pleurisy, in which the opposite surfaces of the pleura are covered with a false membrane, or coating of coagulable lymph, without the interposition of serum sufficient to prevent contact. It is most apt to occur after effused serum has been absorbed. It may take place in interlobular emphysema.

Voice.—The voice is produced in the larynx, and the vibrations belonging to it are conducted through the trachea and its branches to all parts of the lungs. If we apply the ear to the chest of a person who is speaking, we perceive a confused, inarticulate noise. It is clearest and most resounding at the upper parts of the chest, which are near the larynx, and in which the bronchi are largest, especially at the inner edge of the scapula. It is feeblest in the lower parts, where there is a great deal of intervening, spongy, vesicular texture. The degree of resonance varies in different subjects. If other things are equal, it is greater in thin persons than in those who are fleshy, and in persons who have a strong deep voice, than it is in those whose voice is high or feeble.

Aphonia, or loss of voice, may take place from catarrhal affections, debility, paralysis, ossification of the cartilages of the larynx, or ulceration of the vocal chords in phthisis.

The first deviation of the voice ftom its natural state, perceived in auscultation, is in its *diminished resonance.* When this takes place in a particular part, independently of affections of the integuments, it most frequently indicates emphysema. It may also occur in pleurisy, when the effusion into the cavity of the chest is sufficient to compress the whole lung.

Increased resonance of voice takes] place when thepulmonary texture is slightly increased in density. It occurs in incipient phthisis, and at the beginning and decline of pneumonia and in dilatation of bronchi. This and the foregoing variety of resonance, can be estimated only by comparing the part of the lung in which they occur, with a corresponding portion which is in a healthy state.

Bronchophony is a peculiarly loud, clear, thrilling sound, which impresses the listener as if the voice was close to his ear, or as if the patient spoke through his ribs. In different degrees it accompanies bronchial and tubal respiration, and depends upon the same causes, viz., induration of the pulmonary substance by tubercles, hepatization, bronchial dilatation, &c. Bronchophony, in some cases, is attended by a thrill which is not only audible, but palpable to the hand.

Pectoriloquy is an exalted degree of bronchophony, resembling the sound which is heard by placing a stethoscope on the trachea while a person speaks. It is produced by a cavity in the lungs, of moderate size, having indurated walls, and being empty, or nearly so, of fluid. It is liable to disappear and return as the cavity becomes filled with fluid, or is emptied by coughing. The value of pectoriloquy in diagnosis has probably been exaggerated, and we seldom rely upon it without the concomitant signs of excavation.

Amphoric resonance of voice is a hollow, reverberating, semi-metallic sound, as if a person spoke in a brazen vessel. It accompanies amphoric respiration in pneumo thorax, and in tuberculous excavations of large size.

Ægophony is a sound which has been compared to the bleating of a goat, from whence its name is taken. A good idea of it may be obtained from the nasal voice of a person who closes his nostrils in speaking. It exists at a somewhat early stage of pleuritic effusion, then disappears, and returns again after the fluid is partly absorbed. For its production it requires that a certain amount of fluid should be interposed between the lung and the ear, but not so much as to compress the lung wholly. It is usually heard near the lower angle of the scapula. Ægophony occasionally runs into bronchophony, and an intermediate sound is sometimes produced in pleurisy, viz., broncho-ægophony. This sound is apt to exist in pneumonia, attended with a slight degree of pleurisy. According to M. Reynaud, ægophony may occur in aneurism, when the trachea and bronchia are compressed.

Succussion.—A very ancient, though rough mode of exploring the chest, consists in shaking the patient with a view to elicit the sound of free fluid, if such exists in the cavities. This mode is applicable only to cases in which air and liquid co-exist, as in pneumo-thorax and large pulmonary excavations. In patients thus affected, if the body be agitated, the dashing of the fluid can be heard not only by auscultation, but frequently by the ear at some distance from the body. This mode should not be practised to the annoyance of weak patients, but we have repeatedly met with patients who, by their own efforts, could produce the sound of succussion at pleasure.

Cough.—A *short dry cough* is attendant on various irritations of the fauces, elongated uvula, some febrile affections, and occasionally in persons in whom no obvious cause can be detected. It attends on the incipient stages of phthisis.

A *hoarse cough* is loud, dry, hearty and forcible, without any peculiar harshness or stridulous sound. It exists in the early stages of pulmonary catarrh, and seems, like a hoarse voice, to depend on intumescence of the vocal chords.

An *aphonic cough*, the tone of which is whispering and feeble, seems to depend on the same causes which produce aphonia in the vocal functions. It takes place in excessive catarrhal affections of the glottis, in great debility and in ulcerations of the larynx.

A *stridulous cough*, having a barking or brazen sound, occurs in croup, laryngismus, and in some children at the commencement of catarrh or measles. In confirmed croup, under the production of false membrane, it is apt to acquire a wheezing or whistling character.

A *loose cough*, as its name expresses, is characterized by the sound of a loose fluid in the air passages. This fluid may be mucous, purulent mucus, or pus. It occurs in the advanced stages of catarrh, in phthisis, in the third stage of pneumonia, and in old age. In catarrh it is frequently a ground of favorable prognosis. A cough may in some cases have a broken and somewhat loose sound, without evidence of much fluid.

A *spasmodic cough* consists usually of many short expirations, followed by a single prolonged and often sonorous inspiration. It occurs in hooping cough and sometimes in dentition and other affections of children. The cough of asthma has generally more or less of a spasmodic character.

The *amphoric cough* has a hollow, reverberating sound, and constitutes a striking symptom of the advanced stages of phthisis, with large cavities.

Expectoration.—In a state of health the natural saliva and mucus are transparent and colorless, and they generally remain so in the incipient stages of pulmonary diseases.

When the sputa consist of mucus which is thick, whitish and opaque, during common pulmonary catarrh, they indicate a subsidence of the inflammation. They are sometimes yellowish or greenish when the disease is prolonged.

When the sputa are of a red color, viscid, heaped in small masses, and adherent to the vessel into which they are discharged, the disease is pneumonia. They may also be sometimes brown or yellowish in this disease.

When liquid blood of a fresh, florid and frothy appearance is thrown off by an expiratory effort, in any considerable quantity, the case is one of hæmoptysis. It shows in most cases the existence of tubercles in the lungs, but may take place under the influence of other causes, such as catamenial irregularities, aneurism of aorta, and external accidents. Pulmonary hemorrhage, when slight, probably proceeds from exhalation from the mucous membrane; when more serious, from the vesicular texture; and in rare cases, from the rupture or division of a blood vessel.

When pus is expectorated the disease may be bronchitis, pneumonia, or phthisis. The characteristic sputum, often seem in advanced phthisis, has received the Freneh name *pelotonnë*, which has been rendered in English by the word *nummulated*. It appears in roundish masses, with shred-like edges, floating in a clear, transparent liquid. The taste is often sweetish, and the smell nauseous. But it is in some cases extremely difficult to distinguish the pus of phthisis from that of chronic catarrh.

When chalky or calcareous concretions are coughed up, they mostly indicate tubercles or phthisis, usually in a more chronic form. Tuberculous matter is sometimes coughed up in the same disease.

When the sputa are extremely fetid, and accompanied with a putrid odor of the breath, the disease is gangrene of the lungs.

The expectoration of young children cannot be examined, from the circumstance that the substances raised are immediately swallowed by them.

The act of expectoration fails to take place when there is a want of sufficient sensibility in the mucous membrane or the diseased part, to excite coughing. This happens in the lethargic and the moribund, giving rise to the well-known rattling sound in the throat so often heard in these cases. For the same reason expectoration is suspended during sleep, and takes place in increased quantity on waking. Some patients voluntarily avoid

expectoration as long as possible, on account of pain or fatigue attending the exertion of coughing.

Of the Heart and Arteries.—The heart is situated in the left chest, occupying the præcordial region already described. The apex of the heart points forward, downward, and to the left, about the level of the fifth intercostal space. It is enclosed in the pericardium, and covered by the edges of the lungs, with the exception of a small part of a rhomboidal shape, and generally not two inches square. The portion which in most individuals is thus uncovered, gives a dull sound on percussion, and beyond this part the dulness diminishes, till it is lost in the surrounding pulmonary tissue.

The phenomena which are noticed when the ear is applied to the region of the heart in health, are the impulse and the sounds. The impulse conveys the impression that the ear is pushed or struck by the heart, and the sounds which are heard are two in number. The first sound coincides, in point of time, with the impulse, and occupies half the period of a whole pulsation. The second sound is short and abrupt, occupying a quarter or less of the pulsation, while a pause which follows, fills up the remainder of the period. The causes of these sounds of the heart have been the subject of much recent dispute and experimental inquiry. The latest results render it probable that the first sound is occasioned by the muscular contraction of the ventricles, beginning with the closing of the auriculo-ventricular valves, while the second sound is produced solely by the flapping of the semi-lunar valves. In exploring the region of the heart for signs of disease, we attend chiefly to the impulse, the sounds, the rhymth, or order and proportion of the sounds, the extent of dull percussion, the extent of audible respiration, and the prominence of the præcordial region.

When the impulse of the heart is strong and lifting, we infer that there is hypertrophy of the organ, or some of its parts. If perceived over a large space, it is probably attended with dilatation. This diagnosis is confirmed if there is œdema of the lower extremities, dyspnœa, bloating and lividity of the face, with violet-colored lips, and pulsation of the jugular veins.

When in acute disease the impulse is feeble, irregular, or wanting in an erect posture, we should suspect pericarditis, and look out for its other signs.

When there is palpitation, or frequent and abrupt pulsation of the heart, there may be structural or functional disease, or mere nervous irritability of the system.

When the first sound of the heart is prolonged by a blowing or bellows sound, there may be structural or functional disease, or inanition from loss of blood, &c.

When the second sound is prolonged or rough, we suspect disease of the valves from vegetations, thickening, rigidity or contraction. When either sound resembles the noise of a file, rasp or saw, or the cry of a bird, there is probability of still greater valvular disease. In these cases it is generally found that the valves, by their increased thickness, obstruct the passage of blood through the orifices which they command, or else, by their imperfect closure, they permit a portion of the blood to regurgitate. By applying the ear in succession to different quarters of the præcordial region, an opinion may be formed as to the particular valves which are diseased. Nevertheless, our present knowledge of the import of valvular sounds is by no means complete, and the certainty of their indications is doubted by some able pathologists.

When the sound of percussion is dull or flat over a greater extent than natural of the præcordial region, there is reason to suspect hypertrophy or pericarditis, with serous effusion. A similar inference is to be made when respiration is either absent or extremely feeble over the whole extent of this region, and at the same time is distinct in other places.

When the heart is perceived in the right chest, pulsating as strongly as in the left, or more so, there is either a preternaturally solidified portion of lung, or tumor, by which the pulsation is transmitted; or else the heart is dislocated by effusion or tumor in the cavity of the left pleura. In some very rare cases there has been a natural transposition of this and other organs.

When prominence of the præcordial region exists in connection with other signs of diseased heart, there may be pericarditis or hypertrophy. If the prominence be higher than this, we suspect aneurism of the aorta.

When there is a friction sound, like the creaking of new leather, which is synchronous with the pulsations of the heart, there is pericarditis, with effusion of lymph coating the surfaces in contact.

When there is dull percussion, with tumor, about the upper and anterior parts of the chest, attended with loud pulsation, either single or double, especially if there is a purring tremor above the clavicles, we may presume there is aneurism of the thoracic aorta.

The abdominal aorta can be felt in thin persons pulsating along the spine. If the pulsations be excessive and diffused over a preternaturally large space, there is either aneurism of this part of the aorta, or some tumor transmitting its pulsations. Strong pulsations, if not thus diffused, may indicate merely functional disturbance.

When a pulsating tumor is felt in the course of any artery, accompanied with a thrill which is perceptible to the hand or ear, and the tumor subsides on compressing the artery above it, and returns when the pressure is removed, the case is aneurism.

When there is pulsation of the jugular veins, we are to apprehend an imperfect closure of the right auriculo-ventricular valves, in consequence of which, when the ventricle contracts, a part of the blood regurgitates to the auricles and veins.

In certain patients, if a stethoscope be lightly pressed upon the side of the neck, a continuous sound, without pulsation, is heard. It is sometimes buzzing and musical, at others it resembles the blowing of wind against the corner of a house. This sound is called by the French *bruit de diable*, and is now considered as having its seat in the jugular veins. It is chiefly found in chlorotic and anemic subjects, and is supposed merely to indicate thinness of the blood. Several varieties in this sound have been pointed out, which seem of not much practical consequence.

The average frequency of the pulse in healthy persons is from 70 to 75 in a minute. In tall and stout persons it is slower, and in females and irritable subjects, quicker. In infants during the first month, it averages 120, in the second year 90 to 100, and afterwards gradually diminishes. When the pulse is habitually slower than these rates, it commonly arises from idiosyncrasy. But if the slowness is of recent occurrence, and is great in degree, there may be pressure on the brain, or functional disturbance, as from narcotics. On the other hand, the pulse in health may be preternaturally frequent, from mere constitutional irritability, or from various exciting causes. But in most grave diseases a pulse which at all hours exceeds 120, indicates serious morbid affection, and a pulse of 140, if long continued and feeble, is indicative of danger.

When the stroke of a pulse is hard, strong, and simultaneous with that of the heart, it indicates a state which will bear depletion with benefit, or at least with safety. But from this rule we must except the reaction of pulse which sometimes follows excessive bloodletting or hemorrhage. On the other hand, when the pulse is feeble and easily compressed, and when it follows the stroke of the heart by a perceptible interval, it indicates an atonic state, in which depletion, for the most part, is contra-indicated. The radial pulse may become imperceptible in syncope, in great prostration, and in the moribund.

The radial pulse, says Dr. Williams, in general represents truly the number of the heart's contractions; it can never exceed them. But when the heart acts very feebly its pulsations may not reach the wrist; and when they are irregular in force, some may be propagated to it and others not, in which case the pulse will be intermittent. In some cases the heart, as well as the pulse, omits to contract. This irregularity may be functional, or it may be consequent on organic disease of the heart.

Syncope, or fainting, results from a failure of the heart in force, or frequency, or both. It may be occasioned by a great variety of causes, such as mental emotions, loss of blood, especially during an erect posture, violent mechanical injuries, sedative poisons, &c. Some persons faint readily, on slight occasions, from idiosyncrasy. The pulse at the wrist is weak, and often imperceptible during syncope. The sounds of the heart are also feeble in most cases, very short, and without a second sound, and generally irregular.

Hemorrhage takes place spontaneously in acute diseases, especially in fever, and likewise in different morbid changes of structure. It occurs most commonly from mucous membranes by exhalation, and less frequently by ulceration or rupture.

Some remarks on the Hooping Cough, communicated in a Letter to Dr. R. J. Graves. By Dr. H. C. Lombard, of Geneva.

My Dear Dr. Graves,—I resume my long interrupted medical communication with you by some remarks on the hooping cough, which has been so prevalent at Geneva during the last winter and spring. Seldom have I seen so many children attacked at the same time with the convulsive cough; and my field of observation on the sufferers under this painful complaint has been proportionably great. My remarks have been made on the symptoms, the duration, and the various complications of the hooping cough, as well as on the mortality, causes, and treatment of this disease. You will see hereafter, that I have come to some practical results which I am glad to communicate to you, who take so much interest in the means of lessening the sufferings of your fellow creatures.

The symptoms of the hooping cough have been the same in Geneva as elsewhere; it has generally begun in a slight catarrhal affection, with a short, dry cough, which instead of becoming less and less, increased from day to day, and after a period of two or three weeks become quite convulsive.—This first uncharacterized period has sometimes lasted six or eight weeks, and sometimes has been totally wanting, so that the patients had in the space of a few days the convulsive cough; but the most general occurrence was a short, dry cough, for two or three weeks, and afterwards a regular fit or paroxysm recurring from ten to fifty times a day. The fit or paroxysm was most generally divided into two distinct parts, with an interval, during which the patient could breathe easier, and have a few seconds or minutes of rest. It was generally preceded by a great state of anxiety, which lasted from five minutes to half an hour; the little patients used then to cry, and were very much agitated; older patients used to announce their fit a long time before its appearance, and they were troubled sometimes with a difficulty of breathing and sometimes with nausea. In a young girl aged seven years, the nausea was so intense before the fit, and lasted so long, that the only period of rest which she enjoyed, was that which followed the fit, and even that was of short duration. Sometimes, however, those precursory symptoms used to vanish, and were not constantly followed with a regular fit of hooping cough; and I have chiefly remarked this

favorable result when the patient's attention was directed to some interest, ing object, or attracted by conversation. The mucus expectorated was generally viscid, whitish and transparent; sometimes, however, I have found it in the latter period yellowish and even greenish. I have not met with many cases of swelling of the face in the most violent attacks, and I have reason to think that this symptom, which has been considered as constant in the hooping cough, is by no means a usual attendant of this disease; and the more so, as I have seen during the last winter two cases of simple catarrhal affection in children, who had the swelled appearance of the face which has been considered as characteristic of the hooping cough. I have often met with profuse hemorrhages from the nose; but they have never been attended with any danger, on the contrary, they seemed to relieve rather than to increase the violence of the symptoms.

Nausea and vomiting, chiefly the last, were amongst the most constant symptoms observed in my little patients; some of them have seemed for weeks to have thrown up all that they had swallowed, and yet they were not much emaciated; so that I am disposed to think that the very effort of vomiting presses down the pylorus a certain part of the food, and gives an aliment to the absorbents. This supposition appears to me corroborated by what happens in pregnant women, who during many months seem to vomit all they have swallowed, and yet are not much emaciated, at least not so much as they should be were they to retain no food for the process of nutrition. The tongue has generally been white and furred in most cases, and yet the little patients have generally longed for food, and taken it with great pleasure. The bowels have generally been as regular as they are in children of the same age and constitution.

The progress and duration of the hooping cough has been quite different in most of my little patients. The average duration has been from seven to eight weeks; in some cases it did not exceed three or four weeks, but in other cases it has been protracted to as many months. I have heard of cases which had lasted a year or even eighteen months; but none of those cases have come within my personal observation, and I entertian much doubt as to the correctness of this fact.—I have not found weak or debilitated children more subject to violent fits of the hooping cough, than strong and healthy boys or girls; and the only cause of an increased cough has been the presence of many patients in the same apartment; and I think it would be a prudent line of conduct to put the little patients in different rooms, otherwise when one has a relapse, all the other follow at a short interval, and in this way the duration of the complaint is very much increased.

The progress of the hooping cough has been very irregular: the first period has sometimes been entirely wanting, at other times it has been much protracted; the second period, during which the cough had attained its acme, has been often very short, while the period of decrease has lasted a very long time. In most of my patients I have observed a temporary return of the cough, which seemed to return with as much violence as before; but this relapse, though frequent, was never of much duration; and after two or three days the regular decrease continued its course. The fits of cough were observed day and night; and at first I had not perceived whether they were more frequent during the day or during the night; however, having investigated the subject more closely, I have come to the following conclusion; during the period of the increasing cough, the fits are more frequent at night, and when the hooping cough is on the decrease, the fits are more frequent during the day. The following table shows this fact as observed in two patients, aged, one two years, and the other four years:

	NUMBER OF FITS.		
	Day.	*Night.*	*Total.*
CASE I.—1*st*, *period*, (from the 27th Jan. to the 13th February,)	134	143	27

2nd period, (from the 14th February to the 4th March.) - - - - - -	148	123	291
	282	266	548
CASE II.—*1st. period*, (from the 27th January to the 13th February.)	331	288	519
2nd period, (from the 14th February to the 4th March.) - - - - - -	152	126	278
	383	414	697

In both cases the greater number of fits is during the first period at night, and in the second period during the day time. I have met with many instances similar to this, and since I have communicated this singular result to other practitioners, they have had many opportunities of confirming its correctness; and amongst other examples, I may name the two sons of one of our most distinguished surgeons, who told me that he had made the same remark in his family. The fact being well ascertained, what is the explanation? It is easily understood, that during the first period so violent is the cough that it awakens the patient from the soundest sleep; while when the fits are weaker, the frequency of the cough is not so great as to awake the patient. This supposition, however, explains only part of the fact, as it leaves undecided why the greater number of fits takes place in the night during the first period, when the agitation and cries of the little patients seems to bring on constantly new fits. So we are led to suppose, that notwithstanding this last cause of increased cough, it is very likely that motion, amusement, and the open air, contribute to lessen the cough; while rest, the horizontal posture, and the close air of the sleeping-rooms, increase the tendency to the return of convulsive cough. The last conclusion is the more striking, that in adults and in other cases the cough is rather diminished than increased under the last mentioned circumstances.

I have not met with a single well authenticated case of secondary hooping cough; and what may have induced some authors to admit such cases of relapse, is the peculiar prevalence of a convulsive cough amongst the adults, while the hooping cough exists in the same town. During the last winter we have seen many persons attacked with violent fits of cough, attended with vomiting, tears in the eye, and bleeding from the nose. But most of those cases were such as to preclude all idea of a true hooping cough, and in most occurrences it happened in persons who had no communication with children labouring under the convulsive cough.

The only cause which I can admit for the hooping cough, is its transmission by contagion; the proofs of this assertion are the following: In most families where one child was attacked, all the others followed at a short interval. In the schools the transmission has been rapid and general; and in the town of Geneva we have traced the first cases as having caught the hooping cough in a neighboring town, where it had been introduced by a sick child arrived from another county. The only exceptions to the transmission of the hooping cough to members of the same family, has been observed on infants who were suckled; and it is a popular opinion in the United States, that infants at the breast will not catch the hooping cough. I was attending, last winter, an American family consisting of five children, who were all attacked with the convulsive cough except the youngest, who was not weaned till the complaint had entirely subsided in the family.

The various complications of the hooping cough well deserve the attention of the practitioner, as many are serious enough to prove fatal, and others lengthen the complaint, and make it last many weeks, even months. I have never seen a single case of the hooping cough becoming a dangerous complaint when no complication was to be met with, so that I may safely as-

sert, that the hooping cough never ends in death unless attended with some other disease. The various forms of complications which I have observed are, bronchitis, pneumonia, anasarca, water in the brain, remittent fever, and a disordered state of the stomach and bowels.

The inflammatory state of the bronchia is a frequent complication of the hooping cough; it is generally attended with a short cough between the fits, and with much fever and agitation; there is generally much uneasiness before and after the fits, and this uneasiness is caused by the difficulty of breathing, and pain felt in the chest. The bronchial inflammation runs easily into pneumonia, and both are frequent complications of the hooping cough. Most of those cases that terminate in death, are attended with inflammation of the lungs; however this is chiefly to be met with in children who are not properly taken care of; and in the higher ranks of society I have not seen one single instance of this cause of death; indeed, so great is the difference in the mortality of the various ranks of society in consequence of the hooping cough, that I may fairly assert, that out of ten fatal cases, nine belong to the poorer classes. I have seen this difference in my own practice, which since the last four years has become more respectable, and the consequence has been, that while in 1833 I had lost four patients, in 1838 I have not lost one, though my little patients have been twice or three times more numerous; but they, almost without exception, belonged to the higher classes. Anasarca is one of the frequent complications of the hooping cough. In most cases there is a slight degree of œdema on the face and arms, but in some more serious occurrences the serous effusion in the cellular tissue and in the cavities extends to such a degree as to cause death. I have not met with such cases in my own practice, but another physician of this town has described to me three cases which have proved fatal, with symptoms exactly similar to those of the dropsy which follows scarlet fever, and in none of the three patients had this complaint been observed, or likely to have taken place.

Water in the brain is one of the most serious complications of hooping cough, and it is not a rare one. The cause of hydrocephalus is easily found in the constant trouble of the circulation during the spasmodic fits of cough; the face becomes then purple, the nose bleeds, and all the veins are swelled to such a point that they seem likely to burst; this intermittent stoppage in the brain circulation is a frequent cause of hydrocephalus in children laboring under the hooping cough. But besides the above mechanical cause, there is also some great disposition to serous effusion of the ventricles which may depend upon the nature of the convulsive cough; this complaint has undoubtedly its seat in the origin of the nerves, and consequently the brain is originally affected; so that it is not to be wondered at if it induces so often the formation of water in the brain. The only difference which I have been able to trace between the spontaneous hydrocephalus and that which comes in the course of the hooping cough, is the different state of the bowels, which are not so costive in the last as in the first. But a greater number of facts is necessary to make it a general rule.

I have often met, in patients laboring under the hooping cough, with a continued or remittent fever; it was sometimes attended with shivering, hot skin, and night perspirations, so as to resemble consumption. Sometimes the fever is constant and lasts for days and weeks. I have seen such cases where it was impossible to find the cause of the constitution of fever. The chest, examined with the greatest care, did not show any inflammation of the lungs or of the heart; the stomach and bowels were in very good order, and after the strictest search, I was obliged to consider the frequency of the pulse and heat of the skin, as caused by some obscure local inflammation.--So serious was one of these cases that it terminated fatally, and unfortunately I could not obtain permission to examine the body.

The stomach and bowels are generally in good order during the hooping

cough ; but in some rare cases I have met with a loaded tongue, nausea, and loss of appetite, and in such occurrence, gentle aperients succeeded in doing away with this complication. Often have I seen diarrhœa, but it has never been of much consequence, though sometimes attended with fever.

Of the two epidemics that we have had lately, the first has been the most dangerous for children. From August 1833 to March 1834, *twenty-eight* children have fallen victims to the complications of the hooping cough. While, from August 1837, to March 1838, *twelve* only have died in consequence of the same complaint. The forty cases of death have taken place in the following months :

	In 1833 and 1834.	In 1837 and 1838.	Total No.
August,	3	1	4
Sept.	9	1	10
October,	8	0	8
Nov.	3	1	4
Dec.	3	0	3
Jan.	1	5	6
Feb.	0	3	3
March,	1	1	1
	28	21	40

the first period, the greater number of fatal cases was in autumn, while in the second, it was in winter ; but the cases have been too few to draw any practical inference respecting the best or worst seasons in cases of hooping cough.

The age of the forty fatal cases was the following :

Under 6 Months,	6	13
From 6 to 12 Months,	7	
From 1 to 2 Years,		10
From 2 to 3,		6
From 3 to 4,		7
From 4 to 5,		2
From 5 to 6,		2
Above 6,		0
		40

The above table leads us to a very important fact, viz : the danger of the hooping cough in infants, and the decreasing mortality of this complaint as children grow older ; to those above six years not one case proved fatal. We may draw the conclusions, that the danger of hooping cough is in inverse ratio with the age of the little patient. This result is at variance with the general opinion amongst English practitioners, who think that in the seventh year, and in children above seven years, this complaint is attended with much danger.—If other facts concur with the above, it will be an additional proof to the usefulness of medical statistics, or rather of the substitution of direct observations to the vague experience of practitioners, who have kept no record of their cases, and who, however, pretend to draw inferences from vague recollections.

The treatment of hooping cough has, at all times, much occupied the attention of the profession, but so various have been the results of experience, that each practitioner advises a remedy as far superior to the practice followed by others ; and so much has this path been followed, that we have now a long list of unfailing specifics which have done wonders in the hands of their inventors. And yet, after all, I come to advise a new treatment for this complaint. I have also my specific, and I give it to the public with as much confidence as any of my predecessors. However, I am not so exclusive as to have tried only one method, and I will give the result of my experience on those which I have followed with care and attention.

Emetics are rather a matter of course than of choice in infants and children, who, being unable to expectorate, swallow all the mucus formed in the bronchia; it is also necessary to give a certain activity to the expiratory muscles, and in that also emetics are useful. I have given these every day, or every other day, and have always found it as good to unload the chest as an aperient for the bowels. They are also useful as a preparatory measure for some remedies which act better when preceded with emetics. The syrup of ipecacuanha has been used nineteen times out of twenty; when some particular reason prevented its administration, I have given the powder of ipecacuanha, or even tartar emetic, which, however, does not agree so well with young children as with adults.

I have made a great use of assafœtida both internally and externally. Rubbing the spine with the tincture has often been of great service, and a plaster applied on the chest has helped the actions of internal remedies. I have sometimes given assafœtida in pills, but few have been the instances of the children who could swallow this truly named *stercus diaboli*. The flowers of zinc is a very good antispasmodic in hooping cough; in 1834, I have made great use of it, in the dose of four to twelve grains a day, and I must say that I have often succeeded in making the fits less and less. I have seen complete cures accomplished with that single remedy. In two very young infants who had a convulsive cough, attended with symptoms resembling epilepsy, the oxyd of zinc has proved very beneficial, and has stopped the cough and the spasmodic fits. I have never seen any bad consequence from the use of this remedy.

Opium, in various shapes, has enjoyed at all times a great favor in the treatment of hooping cough. The chief preparation which I have used is the syrup of white poppy, in the dose of a tea-spoonful once, twice, or three times a day. In some cases, it has taken away the most troublesome symptoms, but without shortening the duration of the disease. In those cases in which it has proved beneficial it has diminished the number of night fits by making the sleep sounder; but even then it seemed to have little action on those which came during the day.

I have often given prussic acid, and in cases similar to those in which the opiates were indicated, viz: when there was much irritation, and a great variety of nervous symptoms.—I have generally given half a grain, and sometimes as much as one grain of the hydroiocyanuret of potash in the twenty-four hours, but I have never dared to give a large dose of a poison like prussic acid. Employed comparatively on a brother, whose sister was taking the sub-carbonate of iron, this last remedy had a most undoubted advantage.

Belladonna, in extract or powder of the root, has very often succeeded in cases of hooping cough. I used to give from half a grain to two grains of the root, and in many cases with advantage; however, though the cough was less troublesome and the fits less numerous, yet it seemed more to act as a paliative than as a curative remedy, and in many cases it certainly failed and proved quite inefficacious.

I come now to my specific, or rather to the remedy advised by Dr. Steymann, as the best anti-spasmodic in hooping cough. Dr. Steymann, had advised to give from four to ten grains of sub-carbonate of iron in twenty-four hours; he gave as a rule to increase one grain for each year, so that a child six years old was to take six grains in the day; but from the beginning I found that dose quite inadequate, and I increased it to twenty-four, and even thirty-six grains in young children. I have given it either with water and syrup or mixed with a cough mixture. It has never produced any inconvenience, on the contrary, I have found that all the children treated after this method were much less weakened, and recovered faster than with all other remedies. The proofs of the advantageous effects of the sub-carbonate of iron have been so numerous that I can scarcely enter into the de-

tail; however, I may give a few facts to corroborate my assertion. In a child, four years old, I gave the sub-carbonate of iron, and the fits which in the preceding week had been 101 in number, were reduced to 66 in the following week. In a weak and debilitated boy, aged seven years, the powders of belladonna had proved quite useless, when I tried the powder of iron, so prompt was the effect, that in a few days the boy was quite cured; the sister of this boy was also cured with great rapidity. A young girl, aged eight years, had eight fits in the day, and after a fortnight they were reduced to two or three very mild fits of cough. A boy, aged six years, having thirty fits of convulsive cough during the day, when he began the sub-carbonate of iron, after one week the daily number was reduced to twenty-one, and in a fortnight, to eleven or twelve fits—much less violent than they were before the treatment. One of our best apothecaries had tried various remedies on his children, who were laboring under a violent attack of hooping cough, when I advised him to try the sub-carbonate of iron; the result was far beyond his and my expectations, as after three days the night fits ceased entirely, and those which occurred during the day were reduced to three or four. The last case of hooping cough which I have treated lately was of four months' duration, and every thing had proved useless, when I gave the iron powders, which in the space of a few days succeeded in making the cough less and less.

In fact, I think I may assert with security, that the sub-carbonate of iron enjoys a remarkable property to make the fits less violent, to diminish their number, and after a certain number of days to cure entirely the hooping cough. It enjoys, besides, the advantage of strengthening the little patients, and to give them the force to resist a complaint which sometimes lasts some weeks and generally leaves the patients weak, low, and exhausted. In some of those who have taken it, I have often seen during the first days a temporary increase of the cough, but it always subsided after two or three days, and did not prevent the good effects of the medicament. The good effects obtained by the use of the iron powders are easily explained by its anti-periodic and anti-neuralgic properties, and it shews a *posteriori*, how much the hooping cough resembles a true neuralgic, or at all events a true nervous disease.

Before concluding this long letter, I must not omit to mention the remarkable effects of a change of air; indeed, so striking is the fact, that it is now a popular remedy, and many have been the instances which have proved to me that this opinion is founded on a sound observation. In many cases which had baffled all attempts to stop the cough, a change of air has accomplished the cure. I have found it equally indifferent to go out of town or to come into town, provided there is a change; and even at the short distance of half a mile I have seen the good effects of this plan of treatment. In many cases I have remarked that during the first three or four days the change of air increased the cough, which became afterwards much less, a remark similar to that made after the use of sub-carbonate of iron.—*Dub. Jour. from Trans. Jour.*

Treatment of Irritation of the Stomach.—The following remarks on this subject by Jonathan Osborne, M. D. of Dublin, are worthy of attention: "The treatment of both acute and chronic irritation of the stomach, is to be directed, 1st, To the removal of its local causes, by the substitution of an appropriate diet, and 2ndly, To calming the irritation already existing.—The latter is effected by, 1st, Dilution of the contents of the stomach; 2ndly, Diminution of its sensibility, by the agency of cold or heat; 3rdly, The use

of astringents in sedative doses, as acetate of lead, sulphate of lime, nitrate of silver, lime-water; 4thly, Stimulating the circulation of the skin by means of external irritants, bathing, frictions, and exercise; 5thly, Stimulating the circulation of the pulmonary surfaces by changes of air; 6thly, Stimulating the nervous system by mental exhilaration.

1. "*The removal of the local causes, by the substitution of an appropriate Diet.*—When the mucous surface is irritated, it must be looked upon as in the same condition as an irritated portion of the skin, with regard to topical applications; and those substances which are most appeasing to the latter in the form of poultices, are also to the former, as articles of diet. The food then should be vegetable, and consist chiefly of amylaceous substances, as rice well boiled, arrow-root, &c., stirabout taken in moderate quantity, with milk diluted. It is, however, to be observed, that stirabout lies under the imputation of causing heat and itching of the skin, and justly so, those affections being peculiarly prevalent where oatmeal is much used. It is to he ascribed to a resinous matter, in the covering of the grain, soluble in alcohol, which has been ascertained to produce this effect on the skin. When meats are taken, they should be such as are most free from osmazome, as chickens, rabbits, sheeps-trotters, &c., and should always be accompanied by boiled rice or other vegetable matter, in order to diminish the stimulating effect. Of all animal substances that which appears not only to have no stimulating effect, but actually to appease the stomach, is the yolk of egg s. I was informed some years ago, by Mr. Daniel Moore, of the case of a lady laboring under pertinacious vomiting, which he completely cured be frequently repeated spoonfuls of raw yolk of egg, although it had been previously treated ineffectually, by a variety of the most approved remedies.—Amongst the cases attached to this communication, will be found an instance of vomiting from a congested state of the stomach, in the last stage of diseased mitral valve, in which a similar success attended its employment. I could have added several others, and my failures with it have been principally in hysterical cases, in which, perhaps, it is too disagreeable and disgusting, to be retained sufficiently long to exercise its soothing properties. Eggs, in the form of light made custard-pudding, are commendable; but having mentioned pudding, it must be remembered, that all combinations of flour and butter, in which the latter has to be subjected to heat, and then to be rendered rancid, are not only indigestible, and thus apt to provoke a large secretion of sour fluids from the gastric glands, but are also in a high degree irritating to the mucous membrane. Such are various kinds of pastry, and to these may be added, the rancid oily nuts.

"The articles to be avoided in these cases are, salt and sugar in their various combinations. Even tea should be taken without sugar. In short, let the patient suppose at each meal, that he is going to apply a poultice to the interior of his stomach, and he will go not far astray. Let him also not overload, but eat slowly, and about four times in the day, because mere weight acts as a mechanical irritant, and is felt as a 'load in the stomach.' A habit of eating quickly, is productive of over-eating, hence slow mastication must be strongly insisted on, and in case of defective teeth, the food must be taken still more slowly, and in a comminuted form. These observations appear trifling, but when we reflect, that the food has to come into actual contact with the irritable surface, it cannot but be deemed of the highest importance that it should be presented in the least irritating form. In the whole series of stomach complaints, the physician must have the direction of every thing which goes into the stomach, whether as food or medicine; and to be of real use to his patient, he must be no less skilled in cookery than pharmacy.

2. "*Dilution of the Contents of the Stomach.*—The effect of water taken into the stomach, is to diminish the irritation of its contents by diluting them. Hence, it is the usual custom to drink towards the conclusion of a meal,—

Another use of dilution, and that which renders it a medicine, is to dissolve the mucus, and thus to render the membrane accessible to astringent remedies. This effect is best obtained by exercising after drinking largely of warm water. The mucus is thus mixed up and dislodged. According to my view, this mode of action explains the efficacy of mineral waters in irritability and chronic inflammation of the stomach. When an invalid, at one of the German Spas drinks six or eight breakers of the water before breakfast, and walks in the intervals, he washes out the mucus, (as I have proved can be done in the dead stomach,) and thus the small proportion of salts held in solution, acts on the membrane as sedative and astringent. This view has to me been confirmed by experience; as I find that by administering one or more tumblers of warm water in the morning, then, after exercise, giving the sedative astringents to be hereafter mentioned, the most striking results can be obtained, and such as are usually only witnessed during a course of mineral waters.

"Another kind of dilution, is to mix mild along with stimulating articles of diet. This is practised at our daily meals, when we use bread or vegetables in alternate mouthfuls, with meats of seasoned dishes. An experienced gourmand at a feast, will even venture to take things which he knows to disagree with each other, if he has access to good stale bread, as by taking a quantity of this, he is enabled to interpose such a substratum, as shall prevent them from coming into immediate contact.

3. "*The use of Astringents in sedative doses, as Acetate of Lead, Sulphate of Zinc, Nitrate of Silver, Lime-Water.*—I merely state a fact, and am not proposing a theory in describing astringents as a sedative to the mucous membrane when applied in small doses. Let this be judged of by the effects produced, which are diminution of redness, of heat, and of sensibility. Such effects are well exhibited in the most approved applications to the conjunctiva of the eye, and in gargles and lotions injected into the urethra. When the same substances, however, are applied in an undiluted form, then chemical decomposition and destruction of the membrane ensues. Seeing then the importance of attending to doses in these cases, I shall state here, the forms in which I am in the habit of prescribing these substances. They are as follows:—R super acetat. Plumbi. gr. xij; Aceti ʒss; Aq. destil. ℥vij. M. Sum. coch. ij. ampla mane et meridie.

"To the above mixture, an addition may be made of half a grain of acetate of morphine, in case of general restlessness, or in case of the mucous irritation being excited or aggravated by excessive secretion of sour fluid from the gastric glands. In order to give the above and the two following formulæ their full effect, the patient should drink a large tumbler of tepid water on an empty stomach, and use a little gentle exercise before taking the medicine. As for the danger to be apprehended from the preparation of lead taken in this way, I can state, that although now for years in the daily practice of writing the above prescription, I have never seen one instance of either cholic or paralysis resulting therefrom.

"The acetate of lead formulæ, I use in the earliest and more acute cases. Next in point of astringency, and more applicable to chronic cases, is the following:—R. sulphat. zinci gr. iv; aqua distillat. ℥ij. M. Sumat coch. ij. ampla post aqua calefactæ amphorum vacuo ventriculo mane et meridie.

"The last of these formulæ, and that most to be depended on in chronic cases, which has also the advantage of being well suited to the cases of ulceration of the stomach described in my former paper, is the following:—R. Nit. argenti gr. iv; Sacchr. alb. gr. iv. M. Ft. pil. vij. Sumat j. mane et meridie. With the same directions as the two former.

"The success obtained in hysterical and convulsive affections by nitrate of silver, appears to me, to be derived from its astringent and sedative effects on the mucous membrane of the stomach. It being decomposed very shortly

after its arrival there, by the free muriatic acid, and by the nitrate of soda, causes it to change its properties before it descends into the bowels, where it may eventually prove a laxative. Both in chronic irritation and inflammation of the stomach, it is an heroic remedy, the effect of which, only requires to be aided by a judicious attention to diet and the management of the bowels, in order to inspire the patient with the highest degree of confidence in the resources of the medical art. The discoloration of the skin, which causes female patients to regard the internal use of nitrate of silver with great apprehension, I have never yet witnessed in any of my patients. The above mentioned dose, from being speedily decomposed, appears to act merely as a topical application to the stomach, and as I am not in the habit of continuing the use of it longer than a week at a time, the absorption of it in an undecomposed form, and consequent deposition of silver at the skin, appears next to impossible.

"The last article mentioned, is lime-water. This is to be taken abundantly as a drink, and mixed with milk or barley-water. I might also have included the decoction of catechu and of log-wood, the latter especially, as being an agreeable drink; but I have preferred to mention only those articles which manifold experience has stamped with a peculiar value in my treatment of this complaint, and leave to the judicious reader to supply the rest, by always bearing in mind, that irritable or inflamed surfaces in the interior, resemble those in the exterior with regard to those substances which come in contact with them.

"The fourth, fifth, and sixth heads, embrace matters of the utmost importance, and without which, all others will prove ineffectual in this complaint. Without exercise in the open air, I have rarely seen permanent benefit obtained, and even at the risk of the cold and damp weather, the patient must go out every day. Under stimulation of the skin, is to be placed an application to which I attach a high value, namely, that of mustard to the region of the stomach. The flour of mustard simply mixed up with water, applied on a cloth over the stomach every evening, and suffered to remain on until smarting is produced, is a powerful adjuvant, and interferes with no other remedy. It also gives a temporary relief from the pain coming on after dinner, and is generally most acceptable to the patient; it requires no dressing except dry lint or wadding. On the head of mental exhilaration much might be said. Here the *medicina mentis* becomes a most powerful auxiliary. Many physicians know no other remedy of this kind but to send the patient to travel, forgetting how often it proves true, that *cælum non animum mutant qui transmare currunt*, and that in the stores of the imagination, even when remaining at home, there are many resources by which a healthy interest in life may be excited, alternate employment and relaxation provided, and hopes and expectations for the future enlivened. Of such importance is this, that the patient will not only imagine, but will, at least for a time, actually derive more benefit from a practitioner of high repute, whose words sound like oracles, than from one of inferior eminence, although the prescriptions of both may be the same."—*Dub. Jour. Med. Sci.* Jan. 1839, *from Amer. Jour.*

Efficacy of Mercury as an Antiphlogistic Remedy.—M. Delhaye, the author of the following observations very justly remarks—

"The wish to explain every thing in disease is one of the greatest errors in every exclusive system of medicine, whether this be the humoral doctrine, the physiological, or the doctrine of solidism."

There are certain occurrences or facts, which every practical man will admit to be true, and which are yet as mysterious and inexplicable to us in the

present day, as they were two centuries ago—thus shewing how little progress has been made in the *physiology of disease.*

In spite of the ingenuity and earnestness of a very able sect of physicians, who have striven to reduce the various forms of morbid action to a few general and primary elements, we suppose that few, if any, of their disciples will be inclined to deny the existence of certain specific diseases and of certain specific remedies.

Take, for the example, syphilis and its (almost) unquestioned antidote, mercury. Can we give any explanation, in the slightest degree satisfactory, of the essential nature either of the disease itself or the *modus operandi* of the drug? Certainly *not.*

Again; is not ague an essential and specific form of febrile action? and is not Peruvian bark its antidote, *par excellence?*

All attempts to explain the intrinsic and real nature of the diseases have entirely failed. In short, we believe that there is nothing exclusive in medicine; and for this reason we do not hesitate at once to express our adoption of a rational eclectism, in preference to all the much vaunted doctrines and systems which have been proclaimed for the last 150 years. It seems to us to be a great error, that of supposing that the science of medicine can ever attain to that exactitude and precision, which appertains to those sciences, which have to do with inanimate matter. A chemical result is invariable and uniform—provided the experiments are entirely alike—at all times and all places. The same is the case with the facts of mechanics and of the other branches of natural philosophy. But this does not hold good in medicine. Not two cases even of the same disease are entirely alike; there is always some trait or mark of difference in the vehemence, duration, or succession of symptoms; and the art of the wise physician is to detect the *physiognomy,* so to speak, of each case, and to deal with it accordingly. Then, too, the influence of the mind and of the feelings on the course of a disease will never be overlooked by the practical man in directing his treatment.

But to proceed to the immediate object of this paper, we shall first mention a few cases, to illustrate the efficacy of mercury in certain forms of ophthalmia.

Case 1. *Chronic Scrofulous* (?) *Opthalmia.*—A young girl of nervous irritable constitution, had for some months been suffering from sharp darting pains through both eyes, intolerance of light—so great that she always kept her head bent upon her chest, and the *tarsi* were quite contracted inwards, &c. and these symptoms were attended by loss of appetite and general feverishness. It was a matter of difficulty to ascertain the state of the eyes, in consequence of the spasmodically closed state of the lids. The cornea of the left eye had partially lost its transparency, and presented a deep ulcer on its lower half. The right eye seemed to be only sympathetically affected.

Dr. Delhaye says that, when this case was first submitted to him, he was a most believing proselyte to the doctrines of the physiological school, and that he therefore advised bleeding, leeches, blisters, low diet, &c. The disease however was not at all mitigated by this treatment.

M. Stievenart of Mons, a distinguished oculist, was called into consultation. Agreeing with Dr. Delhaye as to the nature of the disease, he suggested the omission of all depletory and lowering measures, and the use of small doses of calomel and belladonna—a pill, consisting of a fourth of a grain of calomel and a sixth of a grain of powdered belladonna leaves, to be taken every four hours—of an opiate collyrium, and of frictions upon the eyelids with the extract of hyosciamus, thrice daily.

On the third day after the adoption of this treatment, the patient could look at objects without much uneasiness, and by the end of the week both eyes were well, with the exception of the ulcer on the left eye.

It is to be observed that a nourishing and somewhat generous diet was administered at the same time, *malgrë les symptomes de gastrite*, adds Dr. Delhaye.

Case 2. A child, who from her infancy had been subject to repeated attacks of opthalmia, was seized in her seventh year with scarlatina, which was accompanied with severe thoracic symptoms. Purulent effusion into the right cavity of the chest took place, and required the operation of paracentesis thoracis. While recovering from this dangerous affection, the eyes, more especially the right one, became the seat of a most distressing opthalmia. There were frequently recurring sharp pains through the orbits, great intolerance of light, &c. Antiphlogistic measures were used for some time, but without any advantage.

Dr. Delhaye, remembering the happy result of the former case, now adopted a similar treatment, although he was in some degree afraid of a mercurial action in a system so debilitated. The calomel and belladonna were given in small doses, the eyes were bathed with a mildly anodyne wash, and a nutritious regimen allowed. The cure was complete by the twelfth day; and it is worthy of remark that the fistula in the side--for this was still open—had nearly cicatrized by the same time.

Case 3. A girl, 18 years old, and of a lymphatic habit, had been subject from her childhood to attacks of ophthalmia, which had caused slight opacity of both corneæ. The present attack was a very protracted one, and was attended with much constitutional disturbance. Leeching, blistering, &c. had been tried without effect.

The treatment recommended by M. Stievenart was therefore adopted, and, by the end of the second week, the ophthalmia had almost completely disappeared.

Mercurial Inunction in Peritonists.—Dr. Delhaye reports three cases to illustrate the efficacy of this mode of treatment. According to him, two were cases of entero-peritonitis occurring within a week after delivery; the third case was one of chronic entero-peritonitis in a woman 60 years of age.

It seems to us unnecessary to give the details, as the reports are rather prolix and vague.

Dr. Delhaye attributes the practice of mercurial inunction on the abdomen in puerperal perotinitis to M. Vandezande of Anvers, and seems to regard it as one of the greatest discoveries of late years in practical medicine. An ounce or more of the strongest mercurial ointment is rubbed in every 24 hours, until a decided effect is induced.

He strongly recommends the same mode of treatment—the inunction of the mercurial ointment on the limbs, &c. so as to induce a decided ptyalism quickly—in cases of chronic inflammation of the meninges of the encephalon and of the spinal marrow.

His memoir closes with the report of several cases of very troublesome *onychia*—wherein a nail had grown into the flesh of the finger, and had caused severe irritation and sometimes ulceration also—quickly relieved by keeping the parts well covered with the strong mercurial ointment; of chronic scrofulous. abscesses and sores treated successfully in the same way; and, lastly, of the phlegmasia alba in puerperal women.—*Bulletin Med. Belge.*

Part III. MONTHLY PERISCOPE.

On Physical Examinations.

Being called on by a distant subscriber for an opinion of the practical value of what are called "physical signs, or physical examinations," we feel it a duty to say a few, and but a few words on the subject. By "physical signs" are meant those evidences of health or of disease which are manifold to the sense of hearing; whether by percussion, or mediate, or immediate auscultation, as it is called.

In the first place we must object to the latter term, as specifically used to mean the application of the ear, either to the stethoscope, or to the surface of the part under examination. Such we believe, is its common application. As however, percussion addresses itself also to the ear, and the signs developed by this mode of examination, can only be detected by this sense attentively directed to the sounds produced thereby, it should, in our humble opinion, be included under the term *auscultation*, and generically, to include all those species of examination in which the sense of hearing is concerned in the apprehension of the evidences developed.

This point in nomenclature being disposed of, we next proceed—not to define the *possible* merits of physical examinations but to make a few observations on *their present application* to practical purposes.

That healthy and morbid conditions are distinguishable in respiration and pulsation as well as in some points of fatal circulation, we have no doubt; and that these distinctions should be familiar to, and well understood by all practitioners is alike true. Nor is it less so relative to percussion, particularly when applied to the two great cavities—the thorax and the abdomen. Nay more—we are fully satisfied of the truth that many absolute facts can be developed with greater or less precision by both of these species of examination. But we are further of the opinion, that all the facilities for demonstration of the truths of the internal condition of parts, by auscultation before death, which the immense Hospitals of Paris, and the very remarkable mortality which attends their administration afford, have not—even to the present day instructed the most acute auscultators to determine many parts with *absolute* precision. Pretty clear inferences of a general nature as well as occasionally, some which are very specific are deducible from these examinations by some few of the ablest and most experienced in their uses. So also there are a few, whose minds may have been peculiarly captivated by, and drawn to these modes of examination, and who have a peculiar tact for them even of less

experience, may have arrived at the point of considerable accuracy in detecting some internal parts by the physical signs; but with such, as with most persons of peculiar zeal—especially those which is fired by novelties, or whose imagination is inflated by things which look forth from a distance, there is a proportionate want of sound judgment in other respects, and with them, the thing becomes a hobby, and is rode down, before it becomes a steed fitted for valuable service.

We are pleased to see young men aspire to great acquirements and accomplishments, provided they do it in the right way. This way is, mostly, great and untiring devotion to study—patient and steady inquiry into natures' ways—by making a sure ground-work of knowledge—storing the mind with truth, as a full garner; and when all this is done—still, in the wholesome exercise of that humility which is ever found in the mind thus well stored, await the development of that proportion of reasoning powers which shall not fail to draw legitimate conclusions from all the truths of the case. Now our observation of more than seven septennials has taught us—omitting all remarks on our own developments of the higher intellectual powers, except that they have been late in being developed, and are yet extremely incomplete—our observation, we say, has taught us that the powers of accurate discrimination—of adoption and of exclusion; that is, of proper examination and selection of facts, and the *judgment*, the great mental power by which alone these parts can be safely, properly and profitably used, are often, very often late in being developed, and in some instances, they even become items in the character of the individual. A few there are however, who afford indubitable evidences of an earlier development of the nobler mental powers. These few will be found obeying, independently of all other influences, the sound dictates of true reasoning from a wholesome selection of facts chastely and impartially made; whilst the former—the great herd, will be found contenting themselves, at least as long as the community on whom they are dependent will allow it, with a routine course of procedure—with mimicking some man, or set of men whom they believe *for once*, greater than themselves. Nor have they any of the safe and wholesome guidance of reason to determine their course, but are fully contented and justified in their own estimation in doing so, *because some one else did so.* This great herd seem to need to be told that some men proceed in the business of life by the *small* developments of mind—such as the imitative powers, by which children learn to talk and to assume the manners of others. Whilst there are others, though few, who go forth on the solid unimpracticable ground of a judgment, which seems constantly omnipotent in controling their wills and their purposes. And these few are often very honestly considered by the former

as *obstinate*, and this, forsooth, because their strong and conclusive reasoning is incomprehensible to, and will not bend about in obedience to the mere assertion of some of those applepates.

With this view of mankind, what are we to expect from a plan of examination which, in general, requires, at least at the present day, the experience of a professional life, with constant investigations, in connexion with prior examinations during life but repeated erroneous diagnosis, prescriptions, and prognostics! Some of these errors have, when they terminated innocently, been the subject of no little amusement to us; and we hold in lively remembrance some very amusing facts arising out of some of those errors in diagnosis from auscultation; such as a single dose of calomel so acting on the hepatic function as to remove, within a few days in the form of a copious secretion of black and green bile, all the difficulties which had been dreaded to depend on tubercular phthisis; but again, when loss of fortune or of life have followed in their wake, they have stood as monuments of the lamentable, and disgraceful arrogance and conceit of those who committed them.

There is another objection to ready confidence in most of these examinations, and this is found too, in the constitution of men's minds. Some, yes many, are attracted by the glare of *one* thought, especially if it be an unusual one. It exerts a sovereign despotism on the whole palace of intellect, and banishes hence, every thing which is not in strict servitude to itself. Thus it happens that, when the physical signs, as they are called, are trusted to for diagnosis, the former, or physiological, as internal signs of the old class of symptoms may be called, are entirely disregarded, whilst the more doubtful evidence brought by the stethoscope and the pleximeter are exclusively relied on.

But we have protracted this article far beyond our design when we began it. We will, therefore, bring it to a close, by giving our candid opinion, that the modes of examination by auscultation and percussion, are yet in a very imperfect state; and that if ever perfected they will still require an extensive and various experience thoroughly to decipher the case, which a long professional life only will afford; and that even then, these signs are only to be taken, *equally into the groundwork for reasoning in practice, with the well established signs of disease, previously in use*, to sustain *their part only*, in the reasoning process *without* claiming any general supremacy.

It should not be supposed that we incline to insinuate that auscultation (and we use here, the term, generically,) is of *no use*, or that it affords no valuable evidence in certain cases, which could not be developed by other means. We are far, from such an opinion. On the contrary, we would recommend

to every student and every practitioner, to study well, and practice diligently, the physical examinations, and study well the most valuable authors on the subject; and amongst such, for the practical utility which they are *calculated* to afford, we will take the liberty of recommending the reader to Lænnec and Gherard, and to Dr. Bigelow's communication on the rules of Physical Examination, extracted into our present No. from the Boston Medical Journal. This last is so divided and so condensed that it may be easily and profitably read and remembered by all. But we must not fail to conclude with this caution to the partially experienced stethoscopist, and indeed to all, that in all cases, other rational symptoms, must be allowed their full force in determining the diagnosis.

If we are called on by our correspondent to contrast the two modes of examination—that is, auscultation in the sense in which we use that term, and the other signs of disease by which physicians are governed without auscultation, we feel compelled to state, that, at least in the present state of the former, it bears no proportion, in practical utility, to the latter. If therefore, one is to be relied on to the exclusion of the other, we must at this time prefer to place our dependence on the latter, for these reasons chiefly; that it affords a greater variety of facts in point, and consequently a fairer scope of investigation: and that it is more applicable to that state and period of disease in which the conclusions arrived at may be valuable. They are also less exposing and harrassing to the patient, whilst the former detects facts which avail but little for practical good, as they consist chiefly of irremediable disorganizations, or those extremities of disease in which all remedies are worse than useless.

Dr. J. H. Griscom, in the New York Medical Journal, has furnished a report of a case of abstraction of the uterus after delivery—which we extract, not so much for any practical benefit which may be derived from its perusal, as for the purpose of disabusing the public mind of the belief most industriously inculcated by many of the *quasi* doctors of the day, that Septimus Hunter, the perpetrator of this act of butchery, was a regular bred physician. It appears from the report, that he was an "irregular," having no shadow of claim to the title or office which he assumed. We subscribe fully to the justice of Hunter's sentence, but at the same time we most sincerely believe that those communities which legalize and patronize admitted ignorance and quackery, are in a moral point of view equally guilty with him who ignorantly and wickedly trifles with or destroys the lives of his fellows.

Case of abstraction of the Uterus, after delivery.—On the 7th of April 1839, at the request of Ira B. Wheeler, Esq., coroner, I examined the body of Mrs. Cozins, the wife of a respectable mechanic, No. 328 Madison-street at the time absent from the city. I was assisted in the examination by Dr. S. C. Ellis, in the presence of Drs. Nichols, Lobstein, and Walters. Before the examination, we obtained the following history:—Mrs. C. was delivered of a healthy, living child, about one A. M., without any other assistance than her sister and a female friend, both married, and the former a mother. The cord was tied and cut *secundem artem;* but the placenta was retained beyond the usual time. Three hours having elapsed without its disengagement, the sister went for a physician and obtained the services of Septimus Hunter, who represented himself to be a physician, but was at the time a clerk in a drug store. Upon his arrival, he immediately addressed himself to the task of removing the placenta, the successive stages of which operation will be mentioned presently.

We were shown, prior to the dissection, a mass of fleshy substance in a washbowl, which I at once recognised as a uterus; also, in another vessel, the placenta was shown us, which was entire, but without a vestige of the umbilical cord attached to it. The latter was subsequently discovered in a pail of dirty water.

On stripping the body, the abdomen was found very sunken. The usual incisions were made, and the following uncommon appearances were presented: 1st. A total absence of the uterus. 2d. The broad ligaments much torn and ragged, and partly deficient. One fallopian tube was absent, but both ovaria remained *in situ*. 3d. The upper extremity of the vagina was open and free, so that the hand introduced from without would pass directly into the cavity of the abdomen, and the intestines could be touched. The intestines were high up as left by the contracting uterus. 4th. A considerable quantity of extravasated blood was seen at each side near the ovaria, forming spots of ecchymosis beneath the membranes. No effused blood was seen, however, within the abdomen. 5th. A laceration of the vagina, about an inch and a half in length, short distance from its superior extremity.

By reverting to the uterus, we find the deficient parts attached to it, viz: one fallopian tube, entire; a portion of the broad ligaments, and about an inch of the upper end of the vagina, which had been divided by an even circle, though manifestly without the aid of any cutting instrument. The external surface of the uterus was about half denuded of its peritoneal coat, leaving the muscular fibres entirely bare. Its internal surface was smooth, and the part where the placenta had been attached very apparent, presenting a slight brown colour. The whole organ was about the size of a child's head at birth. Large quantities of coagula were about the body; the bedding was thoroughly soaked with blood, and a large puddle of it, of a bright red colour, covered the floor beneath the bed.

The examination of an intelligent female witness before the coroner's jury, developed the following facts:—Immediately after the *quasi* doctor arrived, he took hold of the cord, and making strong traction upon it, he completely inverted the uterus, the placenta still adhering; pulling still harder, he severed the cord from its attachment and gave it to the witness. He then took hold of the placenta, removed it, and laid it aside, saying there was more to come away still. He then grasped the uterus of the unfortunate patient, and by dint of "excessive" pulling, after about three quarters of an hour, (during which period he relaxed his efforts occasionally to rest and remove his coat, the miserable patient constantly uttering the most piercing and heart rending cries, such as "you are tearing my heart out, &c.) he succeeded in dragging the uterus from its attachments, and separated it from the body, holding it in his hands, and exhibiting it as a proof of his

prowess and skill, saying that "he never had met with such an extraordinary case before." When asked what it was, he replied, "either a polypus or a false conception." During this brutal operation, the groans of the suffering woman were at first strong and loud; these, together with the force which the man was seen to use, excited the alarm of the attendants, who urged him to desist and allow other medical advice to be called; but with incredible hardihood he persevered, insisting that all was right, that she must endeavour to be patient, and that *he would be responsible for her life.* Towards the close of the performance, her cries became more and more faint, and at length entirely ceased. He thought she was endeavouring to support the pain with patience, and encouraged her in so doing by words. When he turned to look after her, and to feel her pulse, he found that she was dead.

It is due to the profession to say, that the performer of this horrible tragedy is not, *de jure*, a member of the profession, though he asserts that he has a *recommendation* from three surgeons of the British Navy, of his medical proficiency, and that he has had a large amount (three hundred cases) of obstetric practice. He appears to be about thirty-two or thirty-three years of age, and has been in this country two years.

Medical Electricity.—It will be recollected by our readers, that we gave, sometime since, in the pages of the Journal, a description and account of the manner of application and action of a variety of electrical and galvanic apparatus for medical purposes, with a limited view of our experience in the use of some of them. In compliance with our request to be informed of such facts as might result from the use of any of them, we were a few days since, favored with the following interesting letter, on the application of the electrical box, from Dr. J. A. Hamilton, of Waynesboro', in this State:

WAYNESBORO', August 7th, 1839.

"*Dear Sir*—The day after my arrival at home, an opportunity was afforded me for trying the effects of "*The Box*,"* in a case of Rheumatism. The subject was a young man of general bad health; the part affected, the left knee. The leg of the same side was flexed on the thigh at an angle of sixty-five degrees, and could not bear the least extension without producing the most excruciating pain. I applied the box once, and let it remain fixed to the knee for one hour; at the end of which time, he was able to extend his leg nearly to its greatest length. The following day, it was not convenient for me to see the patient; and there was, consequently, no application made. The next day, however, I found him, when sitting, or in a recumbent posture, able to extend the limb perfectly; but when in an erect posture, he was only able to bring the toes of the diseased limb to the floor.

*The Electrical Box, or Box of Sousselier, one of which Dr. H. had just obtained in this place and taken home with him immediately previous to the date of this letter.

The *Box* was now applied again, and in one hour, he was able to stand firmly on his feet. Two days after this second application, I saw him again, and was happy to learn that he had suffered no return of pain, and was able to pronounce himself perfectly well."

The above facts with which Dr. Hamilton has had the kindness to favor us, are extremely interesting; not only because the patient was promptly *cured*, but because they tend to confirm our confidence in a remedy, not the least distressing in its operation, and very convenient in application.

We are happy in being able to add another case of similar import, which recently occurred in the practice of Dr. Edwin Le Roy Antony, of Hamburg, S. C. He was called to a lady who was suffering the most extreme distress from a rheumatic pain in one of her knees. The diseased joint was in such a condition as to afford the most exquisite torture on every attempt to move the leg in any direction.

After many ineffectual attempts to relieve her distress by the various means ordinarily used in such cases, the doctor resorted to the use of the *Electrical Box*. After duly exciting the electric, it was passed on the diseased joint for some minutes. Being obliged to leave, for an hour or two, the Doctor, finding that evident relief was obtained, was unwilling to discontinue the application, resorted to the expedient of binding the *Box* to the lame knee, and left, with the advice that the application should continue until his return. On his return, however, at the appointed time, he was surprised and gratified by meeting his patient walking about the room and enjoying a perfect exemption from pain in the part. She continued free from the affection.

During the past ten or twelve months, we have had opportunity of instituting several experiments in the application of the galvanic uterine exciter; which, whilst they have not been altogether so satisfactory and conclusive as those above stated, tend to confirm the fact of the power of the galvanic current in causing fluxion to the negative pole on establishing a current through the system. Nor can we say of this instrument as of the Electrical Box, that it is of very convenient application.—This objection is, however, measurably obviated by the fact, that the application of the uterine exciter is made by the patient herself; and needs nothing more of the physician than intelligible instructions relative to its use. We will give in this place, a brief account of the several cases in which we have caused its application.

Case 1. Miss ——, had for many years suffered much distress and great impairment of the digestive functions and general health, in consequence of suppressed menses, from a long continued uterine prolapse, consequent on the use of

corsets. The corset we proscribed, and the uterus was treated for prolapse for a few months, when her menstrual difficulty vanished and the menstrual flux returned with great regularity and continued for the proper time and quantity, without the least perception of any of the distresses which had ordinarily attended this period. Her general health was rapidly restored, and her healthy aspect and feeling increased so as speedily to excel any former period of her life since puberty. She retired to her home in the country. In the course of a year or two however, her prolapse being entirely neglected, her menstrual difficulties began again to harrass her. This she suffered for a time, without obtaining competent medical aid, and we were called on for minute instructions in her case, as it was not then convenient for her to remain in the city. These were given for her self-management. This management she undertook and performed as well as she could; but it was so poorly done, that her difficulties were but partially removed. Her menstrual pains were not so excessively severe as they had formerly been, but the deficiency of the monthly discharge increased, until, finally, her viscera became obstructed and enlarged and her digestion more than ever impaired. Thus she continued for a long time, with increasing swelling and hardness of the liver and the spleen in consequence of the almost entire suppression of the monthly discharge. In this condition she returned to my care. The uterus was again treated, with some, but not such *decided* benefit as on the former occasion. The secondary diseases received likewise their due share of attention, but with partial benefit; as the cause, the more or less considerable menstrual deficiencies tended monthly, to their greater confirmation. In this state, the menstrual discharge was ushered on with some pain in the head, back, &c. and continued but twenty-four to thirty hours.

In this state, and at the decline of one of her monthly periods, the uterine exciter was applied, but with little or no benefit. We should have mentioned that all other means of restoration were used, both before and since the galvanic current was in use.—We have been thus minute in stating the facts of this case, because the apparatus failed of producing beneficial results. The liver, spleen, kidneys and spiral marrow, have long been suffering the determination of fluxion to them, which, in health, the uterus should have eliminated from the system.

Case 2. This was also the case of a young lady, brought from a distance and placed under our care in consequence of extreme and alarming distress suffered at the menstrual terms. Her dysmenorrhœa had been so long continued, without appropriate treatment, that the returns were protracted to a period of seven, instead of four weeks; and when the flux appeared, the distress was such as to cause great apprehensions of death. The diffi-

culty arose from a gradually increasing prolapse. This was corrected forthwith, with the effect of bringing on the next menstrual flux, at four weeks and three days. The treatment being continued, as far as necessary to secure the steady adjustment of the womb, the next two periods were precisely at the end of the lunar month, with ease, and in proper quantity. The patient was now discharged.

Some twelve months after, she was returned to me, after enjoying her improved health in free exercise in dancing, the use of corsets, &c. during her absence; which, under the neglect of treatment as the symptoms of returning disease began to appear, had the effect of producing an irregularity, consisting of protracted periods, and a limitation of the menstrual flux to one day, followed by a complete cessation on the next, attended with considerable distress. The returning prolapsus was duly attended to, with relief to all the symptoms, except the deficiency of monthly discharge. This continued as before, despite of the ordinary medicinal means employed for its correction. After ineffectual efforts by ordinary means, for two periods, on the usual decline on the second day of the third period, I caused the galvanic uterine exciter to be applied—the positive pole to the neck and the negative to the os uteri. This application was made on the evening of the day, when the cessation of discharge commenced as usual, and the apparatus was worn through the night. On the following morning the patient found as full a catamenial flux as necessary. The apparatus was then removed. On the second day, the discharge continued as free, and very similar to its ordinary appearance on the first day. In the evening, however, it began to decline, as on the previous day. The apparatus was again applied for the night. On the morning following, which was the third day the discharge was again found increased to about half the ordinary rate of flowing. In the evening it began again to decline, and no further application was made.

Case 3. This occurred in a married lady of Augusta, who labored under sterility from uterine prolapse. Her menstruation was suppressed and painful. When the period arrived, I directed the apparatus applied as usual; the negative pole to the neck of the uterus, and the positive to a denuded surface on the nape of the neck. After some hours continuance of this application, no effect was observable. The patient then, despairing of effect, placed the silver plate on her tongue. Within a very short time after this manner of application, not exceeding twenty or thirty minutes, the menstrual flux commenced, and continued for several hours after the removal of the apparatus, which was done soon after the appearance of the menstrual discharge. Finding the discharge decline after a few hours, she reapplied the apparatus, and with like results; and again, a third

time: after which it was discontinued. We have given this case entirely from memory, as we received it from the patient, but we are satisfied that in all essential points it is substantially correct. We could give some more particulars of interest in this case, but for the absence of the patient from the city.

Case 4. This was a chronic case of dysmenorrhœa, with chronic visceral obstructions occurring therefrom, and accompanied with dyspeptic distresses. The menstrual flux came on every four or five weeks, but declined after the first, or (sometimes) the second day. The apparatus was left with the patient for trial. It was applied by herself—the silver plate to the neck and the zinc one in the vagina; but there was reason to doubt the proper adjustment of the zinc concave to the os uteri. It was applied once only, and on the decline of the discharge.—No effect was observable. Having proved the inefficacy of all ordinary prescriptions, she never reapplied it.

The medical ocular Revellant. This apparatus has been applied to only two eyes, both of the same patient. Both eyes became highly inflamed, with great swelling of the palpebræ and conjunctiva—exquisitely irritable on the admission of light, &c. The usual treatment, including leeching, was adopted; still the local inflammation remained unabated. The left eye was first inflamed. The ocular revellant was then kept in application for two days; at the end of which time the inflammation was greatly reduced; so much so that the patient could open the eye by the power of the muscles of the part. so as to shew the conjunctiva and cornea. The swelling of the conjunctiva was almost entirely reduced, but was still red. With weak astringent lotions kept applied with lint, the white of the albuginea became distinctly visible in the twenty-four hours. The apparatus was applied to the right eye with like effect. During this time, the patient, in attempting to kill a fly by a violent blow with his hand, struck the left eye-ball with the end of one finger. On opening the eye for the dressing afterwards, it was found that the cornea was so injured as to allow the escape of the aqueous and a portion of the vitreous humour. The dressing was continued, and a considerable part of the fullness of the ball preserved, and even the power of perceiving light by the left eye; but no power of distinct vision is left in it. The right eye was entirely preserved.

We have no additional facts of importance, to add to our former remarks on the use of the galvanic purgative.

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